"ONE GOD AND FATHER OF ALL, WHO IS ABOVE ALL, AND THROUGH ALL, AND IN YOU ALL."—EPH. iv. 6.

MANY TEACHERS, BUT ONE LESSON.

A Book for Sunday Schools and Families.

BY THE WRITER OF
"EARLY LESSONS ABOUT THE SAVIOR."

BOSTON:
WILLIAM V. SPENCER,
203, WASHINGTON STREET.
1867.

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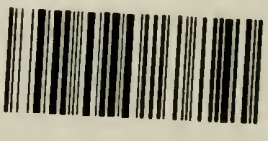

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PREFACE.

THE writer of this little book makes no claim to originality, excepting in the plan and arrangement of it.

She has availed herself, without hesitation, of the best words and thoughts of the living and of the dead which have come within her reach, feeling assured that this cannot impoverish them, while it will greatly enhance the value of her teachings. The preface of the book is, therefore, simply an acknowledgment of her many obligations, and a hearty giving of thanks to the many kind friends who have aided her by advice, or suggestions, or criticisms; and, above all, to Him who inspired in her the desire to undertake the work, has given her so much pleasure in the exe-

cution, and has permitted her to bring it to a conclusion.

To the parents or teachers into whose hands the book shall fall, she would say, Do not consider your work done for you; but rather let these few suggestions incite you to open your souls freely to Nature's teachings, and so best prepare yourselves to lead the hearts committed to your charge to the knowledge and love of the Creator and Author of all things.

UXBRIDGE, 1867.

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Many Teachers, but One Lesson.

INTRODUCTORY LESSON.*

Part I.

Ask now the beasts, and they will teach thee;
Or the fowls of the air, and they will tell thee;
Or speak to the earth, and it will instruct thee;
And the fishes of the sea will declare unto thee.
Job xii. 7, 8.

What is it that the earth, and the air, and the sea, and all that in them is, will teach us?

Answer. About God, their Creator.

Why should we wish to know about God?

Ans. Because He is always with us, and always will be; and because we cannot be happy unless we love Him.

What is necessary before we can love Him?

Ans. That we should know something about Him.

Where can we learn about Him?

Ans. In His Word and in His works.

* These introductory lessons are to be learned before beginning the book, at whatever season of the year that may be.

Where can we find His Word? —
Where shall we look for His works? —
Do these both teach the same lesson?
Ans. They do.
What is the lesson they teach?
Ans. That God is great, and wise, and good.
Which of His works teach His greatness, or power?
Ans. The heavenly bodies and their motions; the mighty ocean, subject to Him alone; and the great mountains, immovable, unchangeable to our view.
How do we learn about His wisdom?
Ans. By seeing how everything which is made has its uses, and is fitted to the place it occupies, and helps everything else so as to make a perfect whole.
If we do not see any use in any one of the Creator's works, what may we suppose?
Ans. That it is because of our own blindness. Remember how little was known of the Creator's works only a few hundred years ago, and how every year adds to our knowledge of them; and that by and by our wisdom may seem like ignorance to those who shall come after us.
What tells us of His love?
Ans. The tender care which He takes of even the smallest of His works, and the adaptation of everything to the pleasure or the well-being of man.
What does Jesus tell us about these things?
Ans. To consider the lilies of the field, by whom

they are clothed, and to behold the fowls of the air, and that our heavenly Father careth for them; and to remember that not a sparrow falls to the ground without His notice, and that the very hairs of our heads are all numbered.

What do we observe about all of God's works?

Ans. That all which He has done and made, He has made and done thoroughly and well.

What does the Psalmist say of the works of God?

Ans. "O Lord, how manifold are Thy works! In wisdom hast Thou made them all." Ps. civ. 24.

What was David's delight?

Ans. To dwell upon the Creator's works.

What effect did this have upon him?

Ans. To fill his soul with the love of God.

What further does he say about God's works?

Ans. "The Lord shall rejoice in His works." Ps. civ. 31.

What has a later poet found in God's works?

Ans.

"Tongues in trees, books in the running brooks,
Sermons in stones, and good in everything."

What was God's judgment of His own works?

Ans. "And God saw everything that He had made, and behold, it was very good." Gen. i. 31.

INTRODUCTORY LESSON.

Part II.

When we speak of the Creator's works, by what name do we usually call them?

Ans. Nature.

What does the word "nature" mean?

Ans. It is taken from a word in another language which means *born*, or *produced.*

What did the ancient Greeks call nature?

Ans. Kosmos.

What is the meaning of "kosmos"?

Ans. Beauty, order, and harmony.

Was there not a peculiar fitness in this name? — What does Nature do for those who love her?

Ans. "She leads them on from joy to joy," by improving the mind and feeding it with lofty thoughts, and "impressing it with quietness and beauty."

What else does she do for the mind?

Ans. She enlarges it and strengthens it.

How is this done?

Ans. By the effort which the mind makes to comprehend the operations of Nature, and in many other ways.

What was the lesson which God's works impressed upon the mind of one great poet?

Ans.

"These are thy glorious works. Parent of good!
Almighty! Thine this universal frame.
Thus wondrous fair, Thyself how wondrous then!"

What did another poet say of them?

Ans.

"The heavens declare the glory of God,
And the firmament showeth His handiwork;
Day unto day uttereth speech,
And night unto night showeth knowledge." Ps. xix. 1, 2.

Who in the Scriptures refer most frequently to God's works?

Ans. Solomon, and the writers of Job and Psalms.

What is said of Solomon?

Ans. That "he spake of trees, from the cedar tree that is in Lebanon, even unto the hyssop that springeth out of the wall; he spake also of beasts, and of fowl, and of creeping things, and of fishes." 1 Kings iv. 33.

Who was Solomon?

Ans. A king of Israel, to whom "God gave wisdom and understanding exceeding much, and largeness of heart, even as the sand that is on the sea shore." 1 Kings iv. 29.

Why did these poets and many others rejoice so much in Nature?

Ans. Because they "looked through Nature up to Nature's God."

What other lessons do God's creations teach us?

Ans. Lessons for our guidance in life.

What does a careful study of them enable man to do?

Ans. To benefit himself and his fellow-man by many inventions.

Mention instances.

Ans. Many tools and implements of labor have been suggested by watching carefully the tools which God has given to the beasts, and birds, and insects, with which to do their work.

What is another instance?

Ans. A knowledge of the nature and laws of electricity has led to the invention of lightning rods, for the protection of man; of the galvanic battery, for the healing of certain of his diseases; and of the magnetic telegraph, to carry his messages all over the world.

What higher lessons do we learn from the works of God?

Ans. Many lessons about spiritual things.

Mention one of these.

Ans. We could not know what "Our Father, who art in heaven" means, if we had never seen an earthly parent, nor could we know anything about God's tender care of us.

What other spiritual ideas do we get from Nature?

Ans. We get ideas of God's attributes.

Mention instances.

Ans. We learn about immensity from the ocean and the starry firmament; about purity by seeing the snow and the dew-drop; and what we know of God's faithfulness we get from seeing some degree of it exercised by His creatures.

What can we say of the teaching of God's works?

Ans. That it is as varied and infinite as it is constant.

What other advantage over other teaching has it?

Ans. That it is free alike to old and young, high and low, rich and poor; and that the pleasure which we derive from it increases with old age, when other pleasures fail.

FIRST SUNDAY IN JANUARY.

THE SUN.

How does God give light to His universe?

Ans. "God made two great lights; the greater light to rule the day, and the lesser light to rule the night." Gen. i. 16.

What is that greater light which God made? —

What is the lesser light? —

In what most important particular do they differ?

Ans. The sun shines by its own light; the moon borrows all of its light from the sun.

What is the sun sometimes called?

Ans. The king of day.

In what respects is the sun like a king? —

How does he rule the day?

Ans. By determining the length of the day.

What is the sun always doing?

Ans. He is always giving.

What does he give?

Ans. He gives good gifts — light and heat.

Could we live without the light and heat? —

To whom does the sun give his good gifts?

Ans. To "the evil and the good."

What else does he do for us?

Ans. He marks off our lives into periods of time, giving us the changes of day and night, and all the pleasant varieties of the seasons; giving us,

also, our welcome anniversaries, our New Years, and our birthdays.

Why do we not thank the sun for all these bountiful gifts, and praise his great and glorious name?

Ans. Because we remember that God is the real Giver. He maketh the sun to shine, and from His goodness springeth every gift.

Have men ever bowed down to the sun and worshipped it?

Ans. Yes. Many years ago the Babylonians, the Assyrians, the Egyptians, and the Persians, all worshipped the sun, the moon, and the starry host.

Is this worship mentioned in the Scriptures?

Ans. Yes. The high priest Hilkiah is said to have "put down them that burned incense unto Baal, to the sun, and to the moon, and to the planets, and to all the host of heaven." 2 Kings xxiii. 5.

Where else in the Scriptures is this worship mentioned?

Ans. In Zephaniah i. 5.

What is supposed with regard to this ancient sun-worship?

Ans. That it was really the worship of the invisible, Supreme Being, through the most glorious of His visible works.

How may we regard the sun?

Ans. As the natural emblem of God.

How does it resemble Him? —

How do light and heat come from the sun to the earth?

Ans. In rays, or lines.

In what are they supposed to originate?

Ans. In a luminous atmosphere surrounding the sun.

Does the earth receive all the light and heat that the sun gives out?

Ans. It has been estimated that it receives less than one two thousand millionth part of the whole supply.

Are light and heat necessary to anything besides animal life?

Ans. Yes. Some degree of them is necessary to vegetable life also.

Does the sun give out any other rays excepting those which bring us light and heat?

Ans. Yes. There are also rays which produce chemical changes in certain substances, which are called actinic rays, and the power which they exert is called actinism.

What effect does actinism have upon plants?

Ans. It causes them to germinate, or sprout.

Is there always the same quantity of it?

Ans. It varies with the time of day, and with the seasons.

At what season of the year is there the most of it?

Ans. In the spring.

Why is it the most needed then? —

Does actinism affect anything besides plants?

Ans. It does; particularly certain preparations of silver.

What has the discovery of this fact enabled man to do?

Ans. To catch and preserve pictures of beautiful objects in nature, and of the features and expression of those dear to him.

SECOND SUNDAY IN JANUARY.

THE SUN — (continued.)

"In them hath he set a tabernacle for the sun." Ps. xix. 4.

To what does this refer?

Ans. To a previous verse, where it is said, "The heavens declare the glory of God."

What is the most magnificent sight which we ever enjoy?

Ans. The rising of the sun.

What precedes it, and what follows it? —

What is a fitting spectacle for the close of a day so ushered in?

Ans. The setting of the sun.

By what is this followed?

Ans. He sinks,

"And leaves the smile of his departure spread
O'er the warm-colored heaven and ruddy mountain head."

Does the sun always rise and set in the same place?

Ans. No. It varies from day to day, constantly going farther north for six months in the year, then for the other six months retracing its steps to the south.

Which is the longest day in the year, or the day when the sun shines the most hours?

Ans. June 21st, when it rises farthest to the north.

Which is the shortest day?

Ans. December 22d, when it rises farthest to the south, and turns to go north again.

Why does the sun appear to us to rise and set when we know that it does neither? —

What lesson does this teach us?

Ans. That our senses are liable to deceive us.

How have mankind found out anything definite about a body so far distant from us as the sun?

Ans. By careful study, and by experiments and observations made by the aid of powerful glasses.

Have the men who find out all these wonderful things any more faculties than we have? —

If we would learn of the hidden things of God, and the laws by which He acts, what must we do now?

Ans. Strengthen and improve our minds in every possible way.

How much does a powerful telescope magnify?

Ans. One thousand times.

What effect does that have?

Ans. It is the same as if the object were brought a thousand times nearer to us.

How far is the sun from us?

Ans. Ninety-five millions of miles.

How does it compare with the earth in size?

Ans. It is more than a million times as large as the earth.

Of what is the sun the centre?

Ans. Of a cluster of planets, moons, and comets.

What relation do these hold to the sun?

Ans. They all revolve about it.

What do the whole form?

Ans. The solar system.

Has the sun any motion of its own?

Ans. Yes. It revolves on its own axis.

How much time does a revolution require?

Ans. Twenty-five and a half days.

Has the sun any other motion?

Ans. Yes. It has a path among the fixed stars.

Who marked the paths of the sun, and of all the heavenly bodies, and keeps them in their appointed way? —

Why do they never come in collision, and dash each other to pieces? —

What do these all do then?

Ans. They all speak His praises.

What idea of God do we get from a study of these mighty works of His? —

Are the rays of the sun ever cut off from the earth?

Ans. Yes.

How?

Ans. By the moon coming between the sun and the earth.

What does that cause?

Ans. Darkness and coldness.

What is it called?

Ans. An eclipse of the sun, or a solar eclipse.

Are these eclipses governed by regular laws?

Ans. They are.

What results from this?

Ans. The time of their return can be calculated thousands of years beforehand.

What do we learn by this?

Ans. That order and regularity are attributes of God.

What has been said about this?

Ans. "Order is Heaven's first law."

Will the time ever come when we shall not need the light of the sun?

Ans. In the life beyond the grave, "there shall be no night, and they shall need no candle, neither light of the sun, for the Lord God giveth them light." Rev. xxii. 5.

THIRD SUNDAY IN JANUARY.

LIGHT.

What account have we of the creation of light?

Ans. "And God said, Let there be light; and there was light." Gen. i. 3.

What further is said of the light?

Ans. "And God saw the light, that it was good." Gen. i. 4.

Why is not this enough for us to know about the light?

Ans. Because our heavenly Father reveals Himself to us through His works, and we must study them to know Him.

Were there any people upon the earth when God created the light? —

When God made man, did He so make him that the light should do him good? —

How did God adapt man to the light?

Ans. By giving him eyes to use it, and an organism to be benefited by it.

Do you think God meant to do that when He made the light? —

What does this teach us about the Creator? —

What did a wise man say, a very long time ago, about the light?

Ans. "Truly the light is sweet, and a pleasant thing it is for the eyes to behold the sun." Eccl. xi. 7.

Is it any less pleasant now than it was then? —

Would the light do us any good if we had not eyes to see it? —

Does it not do good to trees and plants? —

How? —

Does it do us good in the same way that it does them? —

Would a person be well and strong who had always been kept in the dark? —

(The teacher may tell the story of Caspar Hauser.)

Where does the light come from?

Ans. From the sun.

How far does it have to come to reach us?

Ans. Ninety-five millions of miles.

How fast does it travel?

Ans. One hundred and ninety-two thousand miles in a second.

How long does it take the light to come to us from the sun?

Ans. A little more than eight minutes.

If we try to comprehend the magnitude of these distances, and the velocity of this motion, what idea of the Creator does it give us? —

Do we get light in any other way except from the sun?

Ans. Yes. Light is produced by electricity, by phosphorescence, and by chemical action; but all combined are as nothing compared to the one great source of light.

How does the light come to us?

Ans. In rays, or lines.

What is the color of a ray of light?

Ans. White.

Of what is it composed?

Ans. Of a number of elementary rays, of different colors.

How may these be separated?

Ans. By the aid of a triangular piece of glass, called a prism.

What are these rays?

Ans. Red, orange, yellow, green, blue, indigo, and violet; and they always arrange themselves in this order.

Which are the three primary colors?

Ans. Red, blue, and yellow; the others are produced by the mixing or blending of these.

Where have we all seen the light separated into the elementary colors?

Ans. In the rainbow.

Why are some bodies white?

Ans. Because they reflect, or throw back, all the rays of light.

Why are some black?

Ans. Because they absorb all the rays.

What decides the color of an object?

Ans. The rays which it reflects; if it reflects the blue rays, for instance, and absorbs all the others, it will be blue.

Is light a source of pleasure to man alone? —

Ought not a perpetual hymn of praise to go up from God's creatures, if only for the light? —

What is said in Job about the light?

Ans. "Upon whom doth not his light arise?" Job xxv. 3.

As our bodies need natural light, do not our souls also need spiritual light?—

From whence do they receive it?

Ans. "Every good gift and every perfect gift is from above, and cometh down from the Father of lights." James i. 17.

What does John say of the Source of light?

Ans. "God is light, and in Him is no darkness." 1 John i. 5.

What did Jesus say of himself to his disciples?

Ans. "I am the light of the world; he that followeth me shall not walk in darkness, but shall have the light of life." John viii. 12.

What did he say to his disciples of themselves?

Ans. "Ye are the light of the world." Matt. v. 14.

What did he mean by that? —

What did he enjoin upon them with regard to their light?

Ans. "Let your light so shine before men, that they may see your good works, and glorify your Father which is in heaven." Matt. v. 16.

Can children be lights in the world? —

What does Solomon liken to the light?

Ans. "The path of the righteous is as the light of dawn, which groweth brighter and brighter unto the perfect day." Prov. iv. 18.*

* Noyes's translation. This translation has usually been adopted throughout the book.

FOURTH SUNDAY IN JANUARY.

THE EYE.

If light was formed for the eye, for what was the eye no less formed?

Ans. For the light.

What did Jesus say of the eye?

Ans. "The light of the body is the eye." Matt. vi. 22.

What does that mean? —

What are the eyes?

Ans. The windows of the body, through which the mind receives knowledge of outward things.

When you look at a person's eye, what do you see? —

Can you see the whole of the eye? —

What is its shape?

Ans. It is a round ball.

Where is this placed for security?

Ans. In a socket of bone.

Would it answer as well if the eye were any other shape than round? —

Why not? —

What form the outer part of the eye?

Ans. Three thin coats surrounding it.

What is the use of the outside coat?

Ans. To keep the eye in shape.

What is the use of the second?

Ans. It contains all the vessels which nourish the eye.

What is the purpose of the third?

Ans. To receive the rays of light.

What is there at the back of the eye?

Ans. A nerve connecting with the brain.

What is its name?

Ans. The optic nerve.

What is there within the three coats which enclose the eye?

Ans. Three humors, or transparent substances.

Has each its particular use?

Ans. It has.

How does light get into the eye?

Ans. Through the little round window in front, called the pupil.

When the light has entered the eye, what does it do then?

Ans. It makes very small pictures of the objects from which the rays come, on the back of the eye.

What becomes of these little pictures?

Ans. The optic nerve carries them to the brain, and the mind receives them.

When the light is too strong for the eye, what takes place?

Ans. The window becomes smaller.

When there is not light enough, what then?

Ans. The window becomes larger, and lets in more light.

How is this done?

Ans. By little cords in the colored part of the eye, which draw tighter when the window needs to be shut, making the opening smaller, and which loosen when it should be opened.

What is the colored part of the eye called?

Ans. The iris.

If you wish to turn your eyes in any direction, how do they know it?

Ans. By a message from the brain.

How many ways can you move your eyes? — How do you do it?

Ans. By the aid of bands or muscles which God has made for the purpose.

If the eyes get tired, what can you do?

Ans. Close the little shutters with which God has furnished them.

What are these shutters?

Ans. The eyelids.

What other use have they?

Ans. To cleanse the eyes.

What is the use of the fringe of lashes on the lids?

Ans. To keep out cold winds, and dust, and insects.

What are the eyebrows for?

Ans. They are like a roof or arch placed over a door or window to keep off the rain; they also prevent perspiration from running into the eyes; and they sometimes shield them from danger.

What else is particularly noticeable about the eye?

Ans. A little sack of tears in the corner of the eye, to wash it, and keep it soft and clean.

What becomes of tears after they have washed the eye?

Ans. They run off into the nose through a tube which God has provided for the purpose.

Why has God given us two eyes?

Ans. One sometimes rests the other; or if one is injured, the other is still left to us: in addition to this, the field of vision is widened, and more light is used.

Can you conceive of anything more perfect than the eye? —

Why is it so perfect?

Ans. It is the work of a perfect Being, made for His children whom He loves.

What is said of Him who made the eye in Ps. xciv. 9?

Ans. "He that formed the eye, shall He not see?"

What does God see?

Ans. "The eyes of the Lord are in every place, beholding the evil and the good." Prov. xv. 3.

What further is said about this?

Ans.

"For the ways of man are before the eyes of the Lord,
And He weigheth well all his paths." Prov. v. 21.

Does God see any more clearly in the day than in the night?

Ans.

"The darkness hideth not from Thee,
But the night shineth as the day;
The darkness and the light are both alike to Thee."
Ps. cxxxix. 12.

What does God say through his prophet Jeremiah?

Ans. "For mine eyes are upon all their ways; they are not hid from my face, neither is their iniquity hid from mine eyes." Jer. xvi. 17.

FIFTH SUNDAY IN JANUARY.

See Lesson I. in the Appendix.

☞ When a fifth Sunday occurs in any month, the Lesson for that Sunday will be found in the Appendix. As there can be only four months in the year which have five Sundays, there are only four Lessons given.

FIRST SUNDAY IN FEBRUARY.

NIGHT.

"Watchman, what of the night? Watchman, what of the night?" The watchman said, "The morning cometh, and also the night."
Isa. xxi. 11, 12.

What question will we ask ourselves to-day?

Ans. "What of the night?"

Why is this a fitting and profitable question for each one of us?

Ans. That we may avail ourselves of all the benefits to be derived from the return of night.

When the light leaves us, and we are left in darkness, why are we so fearless?

Ans. Because we know the day will come again.

How should we feel if we had never known the night, and it were to come upon us for the first time? —

How do you suppose Adam and Eve felt when they saw the light of their first day fading from them, and the night coming on? —

What did the night hide from them? —

What did it reveal to them which the light had hid? —

When night had passed, and the light returned, what must have been their feelings then? —

Have we not the same occasion for gratitude with each returning day that they had? —

Why do we love the light?

Ans. Because it is pleasant to behold, and because of all the beauties which it reveals to us, and the blessings which it bestows.

If light is so great a blessing, how can its opposite be a blessing also?

Ans. Because our nature requires both, and we could no more do without one than without the other.

For what is the night given?

Ans. For rest and sleep.

Why do we need rest?

Ans. The body becomes weary, and if rest were denied, its powers would soon fail, and feebleness and death would ensue.

Do all parts of the body require rest?

Ans. The heart and lungs, and organs of circulation, never rest, nor cease their labors for an instant.

Mention some of those parts which do require rest.

Ans. The muscles, and brain, and eyes.

To what part is darkness necessary for entire rest?

Ans. To the eye.

Was night made for the body alone?

Ans. The spirit needs rest as much as the body.

To what besides rest is the night favorable?

Ans. To reflection, and to communion with the Father of our spirits.

What does David say in Ps. lxiii. 5, 6?

Ans.

"With joyful lips my mouth shall praise Thee,
When I think of Thee upon my bed,
And meditate on Thee in the night-watches."

For what did Jesus make the night a season?

Ans. For prayer. "And he went out into a mountain to pray, and continued all night in prayer to God." Luke vi. 12.

Why is the night particularly favorable to reflection and to prayer?

Ans. Because then God and good spirits *seem* nearer to us, and because the world, with its pleasures, and cares, and temptations, is withdrawn from us.

What does the night help us to remember?

Ans. Our past lives; because without the divisions of day and night, we should scarcely be able to recall them at all.

What else does the night give us?

Ans. A fresh starting-point each morning, when we may correct the errors of the preceding days, and begin anew, with higher aims and a firmer resolve.

Do all men avail themselves of the uses of night, and become better and wiser by its opportunities?

Ans. No. With many it is the season of impure thoughts and sinful deeds.

What is said of such in John's Gospel, iii. 20?

Ans. "For every one that doeth evil, hateth the light, neither cometh to the light, lest his deeds should be reproved."

How is it with those who use the night for good and holy purposes?

Ans. The light also is sweet and pleasant to them.

What is said about the night in Ps. xix. 2?

Ans. "Night unto night showeth knowledge."

Of what does the night give us knowledge, which we cannot as well learn in the day?

Ans. Of "countless orbs," to which the day had made us blind.

Of what do these more than anything else tell us?

Ans. Of the infinite power of Him whose work they are.

Can we see farthest in the day or in the night? — When can we hear the farthest?

Ans. In the night; because then the air is clearer, and because so many sounds are hushed.

If the night reveals so many things to us which are hid from us by day, what may we hope with regard to the night of death? —

What should we always remember?

Ans. That "the day is Thine; the night also is Thine;" and so God shall be ever present with us.

SECOND SUNDAY IN FEBRUARY.

THE STARS.

"He counteth the number of the stars;
He calleth them all by their names." *Ps.* cxlvii. 4.

What was the teaching of the stars to the mind and heart of David?

Ans.

"Great is our Lord, and mighty in power;
His understanding is infinite." Ps. cxlvii. 5.

What lesson do they teach us?

Ans. The same which they taught him.

What advantage have the stars over all the other teachers which God has given us?

Ans. They speak in the night, when all other voices are silent.

When we look up into the heavens on a clear night, what do we see?

Ans. The whole arch above us is studded with points of light.

What are these little points of light?

Ans. A very few of them are planets like our earth, revolving about the sun, and shining by his light, which they reflect; but almost the entire number are suns shining with their own light.

What are these called?

Ans. Fixed stars.

Why are they called fixed stars?

Ans. Because they appear to remain always at

the same distance from each other, and in the same relative position.

From what does their apparent change of place in relation to us result?

Ans. From the revolution of the earth around its axis.

Do we know the size and distances of any of these stars?

Ans. Of the planets we do; but only a little can we know with certainty of the fixed stars, on account of their immense distance from us.

How far are the planets from us?

Ans. Millions of miles.

How far is the nearest fixed star calculated to be?

Ans. Thirty-two billions of miles.

What is this star called?

Ans. Sirius, or the dog star.

How long does it take the light of Sirius to reach us?

Ans. Travelling at the rate of twelve millions of miles in a minute, it will require more than a year to reach us.

How long does it take the light of the more remote fixed stars to reach us, travelling at the same rate?

Ans. Hundreds of years.

Do these stars appear to be at equal distances from each other?

Ans. No. They appear arranged in groups, which are called constellations.

Are the stars in the same group near each other?

Ans. No. There are doubtless immense distances between them.

Do these groups change from year to year?

Ans. The writer of the book of Job, many thousand years ago, knew and mentioned constellations and stars which we see now.

Which were these?

Ans. Writing of God, he says, —

"He made Arcturus, Orion, and the Pleiads,
And the secret chambers of the south." Job ix. 9.

And in another place, —

"Canst thou fasten the bands of the Pleiads,
Or loosen the chains of Orion?
Canst thou lead forth the Signs in their season,
Or guide the Bear, with her sons?" Job xxxviii. 31, 32.

Is more known about the stars now than was known in those days?

Ans. Every age is making new discoveries: within this last century more has been learned about them than was ever known before.

To what is this owing, in a great measure?

Ans. To very great and important improvements, and increase of power in telescopes.

What was the first discovery that this led to?

Ans. That in the remote regions of space revolve other systems, glorious as ours, and these at immeasurable distances from each other.

How many of those systems have been defined?

Ans. More than a thousand in the northern hemisphere alone.

Are these systems shaped alike?

Ans. No. There is every variety of shape; scarcely two are alike.

What else has been discovered?

Ans. That in some cases two suns, and sometimes three, and sometimes more, revolve around a common centre of gravity: when there are only two they are called double stars; and many of these have been noticed.

What other fact has the telescope revealed?

Ans. A difference in the color of light coming from different stars, which is much more noticeable in climates where the atmosphere is clearer than ours. Some shine with a white light, while of others the colors are yellow, or red, or violet, or blue.

To whom is the world indebted for the greater part of these discoveries?

Ans. To Sir William Herschel, who died in England, 1822, and to his son John Herschel.

By whom was Sir William aided in all his labors?

Ans. By his devoted and untiring sister, who shared his exposures, his labors, and his night watches, and who wrote down all of his observations.

What else do we notice in the heavens in a clear night?

Ans. A milky appearance of a portion of the heavens, which has given it the name of the Milky Way.

What has this been ascertained to be?

Ans. A belt or ring of stars in the regions of space, composed of many millions of stars, and of which our system forms a part.

Is it probable that all has been learned about the stars which ever will be known?

Ans. This is not at all probable; in every science, each age gives us many new discoveries.

What should be the aim and result of all these additions to our store of knowledge?

Ans. To bring us nearer to Him who created all things, and is the Source of all knowledge.

Is it enough that our minds comprehend His wisdom and His power?

Ans. No. It is only by having our hearts filled with the love of His love, that we really draw nigh to Him.

THIRD SUNDAY IN FEBRUARY.

AIR.

"And the Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life." *Gen.* ii. 7.

What is this breath of life?

Ans. Common air passing in and out of our lungs, and without which we cannot live.

What can you say of our supply of it?

Ans. It is provided for us everywhere, and at all times, so that we need not so much as ask for it, or reach forth our hand to take it.

How much air does a man require for breathing?

Ans. A pint of air is received into the lungs at each inspiration, and more than a hundred barrels are used in a day.

What is air?

Ans. It is the fluid by which our earth is entirely surrounded.

How high above the earth does it extend?

Ans. Forty or fifty miles.

As no one has ever been a tenth part of that distance from the surface of the earth, how was that ascertained?

Ans. The air was found to diminish in density as we ascend in it; and it has been proved also to diminish in a regular ratio, so that it was easy to calculate when it would cease entirely.

Can we see the air?

Ans. We can neither see, taste, nor smell the air.

Why can we not see it?

Ans. Because it is transparent.

Is it colorless also?

Ans. It has a faint tinge of blue, so faint that it can only be seen when looking up at the whole volume of air.

How do we know that it exists, if we cannot see it?

Ans. We see its effects, and we feel it when it is set in motion.

What sets it in motion?

Ans. Heat, by the change which it produces in it, making it lighter, so that it rises, and the cool air rushes in to take its place.

When air is in motion, what name do we give it?

Ans. Wind.

Is the air near the earth's surface colder or warmer than at a distance from it?

Ans. Much warmer.

What proof have we of this?

Ans. Perpetual snow on the tops of all high mountains.

What is the cause of its greater warmth near the earth's surface?

Ans. The sun's rays passing through the air do not heat it; it is heated by lying in contact with the warm earth; so the nearer the earth, the warmer it is.

What is the advantage to us of the transparency of the air? —

What other property has it?

Ans. It is exceedingly elastic; that is, it rebounds or springs back when it has been pressed.

How has this been proved?

Ans. It has been compressed into more than a thousandth part of its usual bulk, and it has been known to expand to more than two thousand times that bulk.

What benefit do we derive from this?

Ans. It is in consequence of this property of the air that we hear sounds.

How is that?

Ans. The ear is an exceedingly delicate organ, and every vibration of the air produces an impression upon it, and the elasticity of the air is so great that every motion in it causes vibrations.

At what rate do these vibrations pass through the air?

Ans. They move more than a quarter of a mile a second, or nine hundred miles an hour.

Do all sounds travel at that rate?

Ans. They do.

Is anything known which travels faster?

Ans. Yes. Light travels nearly eight hundred thousand times as fast.

If the air were not elastic, what should we lose?—

Of what is the air composed?

Ans. Of three elements; oxygen, nitrogen, and carbonic acid gas.

In what proportion are they mixed?

Ans. One part of oxygen to four of nitrogen, and one part in a hundred of carbonic acid gas.

What is the use of the oxygen?

Ans. It is that part of the air which sustains our life; and it is that which causes fuel to burn, and keeps our bodies warm also.

Why would not oxygen alone have answered as well for us to breathe?

Ans. It would have burned us up; animals placed in it die in great agony.

Could we not live in the nitrogen alone?

Ans. No. There is nothing in it to support life.

What, then, is the use of the nitrogen?

Ans. To dilute the oxygen, and make it safe for man's use.

Do any other proportions of oxygen and nitrogen than those in which the Creator has combined them, answer for man to breathe?

Ans. They do not.

How does the oxygen act upon our bodies?

Ans. It combines with the carbon in our blood, and produces carbonic acid gas.

Is this gas good for us?

Ans. No. If it remains in our systems it produces drowsiness, stupor, and death.

What is the advantage, then, of the oxygen and carbon combining?

Ans. In that way heat is given out, and our bodies are kept warm; while the carbonic acid gas is all sent out of our systems by the compression of the lungs.

What is the nature of carbonic acid gas?

Ans. It is a deadly poison; more than one part to one hundred in the air would be injurious to us, and five parts to one hundred would kill us.

For what is it made, then?

Ans. Plants use it as animals do oxygen; both breathe the same air; the animals use the oxygen of the air, and discard the carbonic acid gas; while the vegetable world extracts the carbonic acid gas from the atmosphere, and gives back the oxygen.

What do we see in this arrangement?

Ans. Proofs of infinite wisdom and love.

If the oxygen of the air mixes with our blood, and the carbonic acid gas which is sent out is a deadly poison, what follows from this?

Ans. That we require a constant supply of fresh air.

What would be the result if we were shut up in a small room made air-tight?

Ans. After a time we should use all the oxygen of the air, and then die.

What is the result when a good many people are in a room together with the doors and windows shut?

Ans. The air soon becomes unfit to breathe, and very injurious.

Why are people who work out of doors generally strong and healthy? —

What is the duty of people whose life is mostly in doors?

Ans. To let in the fresh air as much as possible.

How should air be taken into the lungs?

Ans. Through the nose.

Why is this?

Ans. Because God has lined the nose with little hairs, which, crossing each other, make a sieve, which retains all impurities.

What practice should always be avoided as unhealthy?

Ans. The practice of breathing through the mouth.

Is it not a duty to avoid anything which we know to be unhealthy?

FOURTH SUNDAY IN FEBRUARY.

AIR — (continued.)

What effect does air have upon the light?

Ans. It reflects and refracts it.

What results from this?

Ans. The brightness and cheerfulness of day.

What would be the result if the rays of light passed straight through the air, without being turned out of their course or thrown back?

Ans. We should see only the sun and objects which reflected its light to us, which would appear like blazing bodies in a dark night.

Has the air weight?

Ans. It has.

What results from this?

Ans. That the air is much more dense near the earth's surface than at a distance from it, and better suited for man to breathe.

What is the pressure of the air upon a man's body?

Ans. On an average-sized man it is estimated at fourteen and a half tons, or enough to crush him to atoms.

Why does he not feel this?

Ans. Because there is an equal pressure on all parts, from without and from within.

Does the air hold anything suspended in it?

Ans. Yes. Moisture.

What results from this capacity of the air?

Ans. Evaporation from ocean, lake, and river.

What is the benefit of this as regards the ocean?

Ans. That with all the water running into it, it may never overflow.

What is necessary with regard to it?

Ans. That infinite wisdom should exactly balance the amount taken up and carried off, by that which is constantly pouring in from so many sources.

Could anything short of infinite wisdom, and knowledge, and power, do this? —

Do we ever see this moisture suspended in the air?

Ans. Yes. In fogs, mists, and clouds.

Does the air restore this moisture to the earth?

Ans. It does; in the form of dew, rain, hail, and snow.

What is another service of the air?

Ans. It is the great receptacle for all impurities which result from the decomposition of animal and vegetable matter.

What becomes of these?

Ans. They are disposed of in various ways; some rise into the higher regions of the atmosphere, some enter into new combinations and are washed down to the earth by the rains.

Is the air inhabited?

Ans. It is; by myriads of birds and insects.

What has the Creator given these to enable them to move about in their native element?

Ans. Wings.

How else are they adapted to their airy home?

Ans. By their whole structure.

Has the air more inhabitants than we can see?

Ans. The microscope reveals an innumerable number of exceedingly minute animal organizations.

What else has the atmosphere been found by experiment to contain?

Ans. An inconceivable number of the spores or seeds of microscopic plants.

What becomes of these?

Ans. They lodge on bread or cheese, and grow into mould; or on linen and silk, and produce mildew; or they take root in vegetables, and produce rot or blight.

What is the size of these floating particles?

Ans. Some are one five-thousandth of an inch in diameter, others as large as one two-thousandth.

What does David say of the Creator's works in Ps. cxxxix. 14?

Ans. "Marvellous are Thy works; and this my soul knoweth full well."

FIFTH SUNDAY IN FEBRUARY.

See Appendix.

FIRST SUNDAY IN MARCH.

WIND.

"And God made a wind to pass over the earth." *Gen.* viii. 1.

What can you say of the wind?

Ans. It is powerful and mighty, and fierce as an angry lion; and it is also as mild and gentle as a loving word.

Can you see the wind? —

How do you know that there is any wind? —

What does the wind do in a stormy night?

Ans. It moans, and shrieks, and whistles, and howls.

What does it do in a summer's day?

Ans. It gently rustles the leaves of the trees, and stirs the long grass, and fans the heated face.

What does the wind sometimes do with trees and houses? —

What does it do with great fires? —

What with the waters in the sea? —

What with the ships on the sea? —

What with the clouds in the sky? —

What with the seeds of trees and plants? —

What with the strings of the Æolian harp? —

What does it do for the air that we breathe? —

What for us in a hot day? —

What with the bad odors which rise from the earth? —

What does it bring into sick rooms? —
What labors does it perform for man?

Ans. It turns windmills, which draw up water and grind grain; and it fills the sails of vessels.

What, then, may the wind be called?

Ans. A friend, comforter, and helper of man.

What is wind?

Ans. Air in motion.

What causes wind?

Ans. Different degrees of heat and cold; heat making air lighter, so that it rises, and colder air rushes in to take its place.

By what is the character of winds determined?

Ans. By the surfaces over which they blow: those which traverse deserts are dry and hot; those which blow over the ocean are full of moisture; those which come from the ice regions chill us by their coldness.

At what rate does wind move?

Ans. A slight wind, which is scarcely perceptible to us, moves a mile in an hour; while a hurricane, that tears up trees, passes on at the rate of one hundred miles in the same time.

Are there any regular winds known?

Ans. In the torrid zone there is a wind steadily blowing from east to west, passing round the globe. These currents of air are called trade winds. Besides these there are, in warm countries, on all coasts, land and sea breezes, which blow from the sea to the land through the day, from the land to the sea through the night.

Where does David say the winds come from?

Ans. "He bringeth the wind out of His treasuries." Ps. cxxxv. 7.

Who besides David has spoken of it in that way?

Ans. The prophets Isaiah and Jeremiah.

What is kept in treasuries?

Ans. Precious things.

Why is the wind said to be brought from God's treasuries? —

For what purpose does He bring it forth?

Ans. For the good of His children. "O that men would praise the Lord for His goodness, for His wonderful works to the children of men." Ps. cvii. 8.

What did Jesus say about the wind?

Ans. "The wind bloweth where it listeth, and thou hearest the sound thereof, but canst not tell whence it cometh or whither it goeth; so is every one who is born of the Spirit." John iii. 8.

What did Jesus mean by this?

Ans. He meant that God breathes upon men's souls in many ways to make them serve Him better and love Him more; that often the influence of His Spirit is silent and unseen, but that none the less certain of its workings may we be, if only the fruit of the Spirit exists.

What is the fruit of the Spirit?

Ans. "Love, joy, peace, long-suffering, gentleness, goodness, faith, meekness, and temperance." Gal. v. 22, 23.

SECOND SUNDAY IN MARCH.

WATER.

"When the poor and needy seek water and there is none, and their tongue faileth for thirst, I, the Lord, will hear them; I, the God of Israel, will not forsake them. I will open rivers in high places, and fountains in the midst of the valleys; I will make the wilderness a pool of water, and the dry land springs of water, that they may see and know and consider, and understand together, that the hand of the Lord hath done this, and the Holy One of Israel hath created it." *Isa.* xli. 17, 18, 20.

What is this which the prophet Isaiah wrote so many years ago?

Ans. A promise of God to the children of Israel.

Did God do these things for the Israelites alone, or is He still doing them for all His children? —

What is the most obvious purpose of the creation of water?

Ans. To quench thirst.

Does it answer that purpose perfectly? —

Could man or beast exist without it? —

In what other way is it essential to man?

Ans. It is necessary to his cleanliness, and so to his health.

What other use does he make of it?

Ans. With it he cooks his food.

How else does it serve him?

Ans. It turns an innumerable number of great wheels which keep machinery at work, making for him paper, and cloth, and ribbons, and needles and pins, and articles of wood and of iron; and grind-

ing his grain, and sawing his logs, and planing his boards, and very many other things.

When we see a piece of workmanship which answers exactly the purpose for which it was made, what does it prove of the maker of it?

Ans. His unrivalled skill.

If the maker of the work was also the inventor of it, what else does it prove?

Ans. His wisdom, as well as his skill.

If the design of the invention was evidently to do good, or to confer happiness, what further does it prove?

Ans. The goodness and loving-kindness of the inventor.

If the same invention answers several beneficent and important purposes equally well, is it not a still stronger proof of the wisdom, and skill, and love of the creator? —

May not all these things be said of the subject of our lesson for to-day? —

Can we think of any substance more powerful, more wonderful in its nature, more universally diffused, than water? —

How great a portion of the earth's surface is covered with it?

Ans. More than two thirds.

Does it enter into the composition of our bodies?

Ans. It does, very largely; and into the bodies of all other animals.

How large a proportion of our bodies is water?

Ans. Three fourths.

If this were all withdrawn, what would follow?

Ans. We should crumble to dust.

Of what else does it form a large part?

Ans. Of all vegetable life.

Which was created first, man or water? Gen. i.

Of what use was water before man was created?

Ans. It helped by its currents to shape the earth and arrange its solid particles in the best possible manner.

What else has it done for the earth?

Ans. It has filled in the deep places with rich soil, so that they shall blossom and bear fruit. It has given nourishment, and so life, to all vegetable forms. It has furnished a home for all the fish, and many lower forms of life, and supplied drink to quench the thirst of man, and bird, and beast.

Does water come to us at all times, as air does? —

What must we do when we need it?

Ans. Seek it, or reach forth our hand and take it.

Why is this difference?

Ans. Waking or sleeping, we cannot subsist a single moment without air; therefore the All-wise has given that to us without any effort of ours; but water we only need at intervals.

What is the nature of water?

Ans. It is a tasteless, colorless, transparent fluid.

What other property has it?

Ans. Coolness.

What are the advantages of each of these properties? —

Of what are all bodies of water made up?

Ans. Of separate drops.

While these drops appear so clear and transparent to us, of what are they oftentimes the abode?

Ans. Of myriads of living beings, of every variety of form.

How many have been calculated to a single drop of stagnant water?

Ans. Five hundred millions.

What are the component parts of water?

Ans. Two gases — oxygen and hydrogen.

What very curious fact respecting these can you mention?

Ans. Separately, they both burn readily; combined in the proportion to form water, they are used to put out fire.

What changes does water undergo, beginning with its place in the seas?

Ans. Vapor, clouds, rain, brooks, rivers, and so back to the ocean again.

What is its natural form?

Ans. Liquid.

What agents act upon it?

Ans. Heat and cold.

Into what form does heat change it, and what then becomes of it? —

What does cold do to it, and what form does it then take? —

What effect does cold have upon most bodies?

Ans. It causes them to contract.

Does it have this effect upon water?

Ans. It contracts it to a certain degree of coldness, and then, by crystallizing the particles, it causes them to expand.

What is the wisdom of this exception to the general rule?

Ans. If water contracted by freezing, it would become heavier, and sink as it became solid, till lakes, and ponds, and rivers, would be entirely frozen up, and all the inhabitants thereof die, and man perish for want of drink.

What is a striking characteristic of water?

Ans. Its purity.

In what religious rite is it used?

Ans. In baptism.

Why is this?

Ans. Because of its cleansing property, it is a type of spiritual purity.

How long has it been used in this way?

Ans. From a very early period.

What was the ancient type of spiritual cleansing?

Ans. Bathing in certain rivers.

Does any body of Christians still perform baptism by going down into the water? —

What is the more common mode? —

What was David's prayer?

Ans. "Wash me thoroughly from my iniquity, and cleanse me from my sins." Ps. li. 2.

THIRD SUNDAY IN MARCH.

THE SEA.

"They who go down to the sea in ships,
And do business in great waters,
These see the works of the Lord,
And His wonders in the deep." *Ps.* cvii. 23, 24.

When we speak of the sea, what do we include?

Ans. All the seas, and all the oceans on the face of the earth.

How much of the earth's surface does it occupy?

Ans. About three fourths.

Of what is the mighty ocean made up?

Ans. Of little drops of water, any one of which might be taken up on the point of a pin.

What is the appearance of the sea?

Ans. Sometimes it is as smooth as glass; sometimes it tumbles and tosses about, lashed into foam, and dashing over the great rocks on the shore.

Does it give out any sound?

Ans. Its waves roll in upon the beach, sometimes with a gentle, lulling sound, sometimes with a great crash, like a sudden peal of thunder.

What does a strong wind do to the sea?

Ans. It drives its waters up into great angry waves, whose tops are crested with white foam, and which chase each other over the surface of the sea.

How high do these waves rise?

Ans. Not often more than ten feet above the

surface of the sea; but as there is a corresponding depression of ten feet, they measure twenty feet in height.

How fast do they run?

Ans. About thirty or forty miles an hour.

Does the water itself move at that rate?

Ans. No. Excepting on the beach, where it cannot sink down, the water remains nearly in the same place, simply rising and falling; it is only the form of the wave which advances.

What other motion has the sea?

Ans. It rises and falls in tides, at regular intervals.

How often do the tides rise and fall?

Ans. Twice every day.

To what are tides owing?

Ans. To the attraction of the moon and of the sun.

Do these act together, or do they counteract each other?

Ans. At the new and full moon they act in concert, and form high tides, which are called *spring* tides; between these times they act in opposition, and the tides are small, and called *neap* tides.

How high do tides rise?

Ans. In mid-ocean about three feet; but where the sea rushes into narrow channels there is sometimes a difference of sixty or seventy feet between high and low water mark.

What other motions has the sea?

Ans. There are many currents in its waters, so that the water is constantly changing its place.

What are some of these currents?

Ans. There is a constant current of cold water setting from the poles to the equator, and a counter-current of hot water from the equator to the poles.

What is the most marked current in the ocean?

Ans. The Gulf Stream, which flows north-east from the Gulf of Mexico.

How do its waters differ from the surrounding water?

Ans. "It is a well-defined river of warm water flowing between banks of cold water," and its color is blue, while that of the ocean at its sides is green.

What is there underneath this current of warm water?

Ans. A current of cold water flowing in the opposite direction.

Is there any part of the ocean where there are no currents?

Ans. Yes. In the middle of the Atlantic Ocean is a great silent sea, into which are washed whole islands of weeds, and which is called the *Sea of Weeds*, or the *Sargossa Sea.*

How large is this sea?

Ans. At least twenty times as large as the British Isles.

What is the nature of the water of the ocean?

Ans. It is strongly impregnated with salt, and with various other mineral substances.

Where do these come from?

Ans. They are continually washed in from the land, by all the waters which run into the sea, and

all such as are contained in the bed of the ocean the water dissolves.

What becomes of all these mineral substances?

Ans. The inhabitants of the sea take them up for their nourishment, and their materials of labor; the coral insects make banks and reefs, and the shell-fish their shells, of the lime; and the plants of the sea take up the salts and the soda, and many other things; all of it is needed; none of it is wasted.

Why does the sea never get too full, with immense rivers pouring their waters constantly into it?

Ans. Just as much water as runs in, just so much the air pumps off, and carries away in mist and vapor, to be returned to the earth and sea in rain and snow, and by the constant flow of rivers.

Who has made them equal?

Ans. He "who hath measured the waters in the hollow of His hand, . . . and weighed the mountains in scales, and the hills in a balance." Isa. xl. 12.

What do we know about the bottom of the sea?

Ans. It has mountains and valleys, like the land.

How deep is it in the deepest places?

Ans. The deepest place that has been measured was nearly six miles.

Can the sea, with all its mighty waves, and currents, and tides, be ruled?

Ans.

"Who is mighty like Thee, O Jehovah?
Thou rulest the raging of the sea;
When the waves thereof rise, Thou stillest them."
Ps. lxxxix. 8, 9.

How can the Lord do this?

Ans. "The Lord on high is mightier than the noise of many waters; yea, than the mighty waves of the sea." Ps. xciii. 4.

What is related of Jesus?

Ans. "He rebuked the wind, and said unto the sea, Peace, be still. And the wind ceased, and there was a great calm." Mark iv. 39.

What did Jesus say of his wonderful works?

Ans. He said, "The Father who dwelleth in me, He doeth the works." John xiv. 10.

FOURTH SUNDAY IN MARCH.

THE SEA — (continued.)

What does David say about the sea in Ps. xxxiii. 7?

Ans.

"He gathereth the waters of the sea as a heap:
He layeth up the deep in storehouses."

What is a storehouse?

Ans. A building where goods of any kind are kept.

How is the sea a storehouse?

Ans. There is stored up in it a great supply of food for man, and for all the inhabitants of the sea; there are quantities of salt, and supplies of soda, and potash, and iodine; and there are sponges, and corals, and pearls, and beautiful shells, and many other precious things.

How may the sea be likened to a great garden?

Ans. Plants of almost every form and color grow in its depths, or are found floating on its surface.

How is the sea a vast museum?

Ans. Because of the wonderful things it contains; the great floating islands of ice, the curious fish, the mosses, the shells, the coral formations, the richly colored plants, the beautiful round pebbles, &c.

Why is the sea sometimes called a highway?

Ans. Because thousands of people traverse its surface in various directions, and the produce of all countries is carried across it.

To what is the sea a home?

Ans. To an innumerable number of fish, both great and small, and to myriads of little animals and insects?

To whom is the sea a burial-place?

Ans. To the very many who have died in crossing its waters, and been consigned to its depths, and to the mighty hosts of its inhabitants.

What is found at the bottom of the sea?

Ans. The mud, when brought up and examined under the microscope, has been found to be composed entirely of shells and skeletons of animals, so small as to be invisible to the unaided eye.

Of what do these tell us?

Ans. Of the infinite number of minute beings which have lived and died in the sea from the foundations of the world.

What may we say of these?

Ans. That not one of them has fallen to its resting-place without our Father's notice.

What does David say of the sea?

Ans.

"Lo, this great and wide sea!
In it are moving creatures without number; —
Animals small and great.
There go the ships;
There is the leviathan, which thou hast made to play therein.
All these wait on Thee,

To give them their food in due season.
Thou givest it to them, they gather it;
Thou openest Thine hand, they are satisfied with good."
Ps. civ. 25–28.

What promise of God is associated with the sea?

Ans. "For the earth shall be full of the knowledge of the Lord, as the waters cover the sea." Isa. xi. 9.

What prophet repeats this promise?

Ans. Habakkuk, ii. 14.

FIFTH SUNDAY IN MARCH.

See Appendix.

FIRST SUNDAY IN APRIL.

BUDS.

"For as the rain cometh down, and the snow from heaven, and returneth not thither, but watereth the earth and maketh it to bring forth and bud, that it may give seed to the sower and bread to the eater, so shall my word be that goeth forth out of my mouth." *Isa.* lv. 10, 11.

What is the order of development in vegetable life?

Ans. Bud, blossom, and fruit.

Is this an accidental arrangement, or is it one of God's laws? —

Besides blossom and fruit, what else springs from buds?

Ans. Leaves.

Are buds all alike, then?

Ans. There are three kinds; buds which contain leaves alone, buds which contain blossoms alone, and those which contain leaves and blossoms.

Mention instances of buds which send forth leaves and blossoms.

Ans. They are found in grape-vines, where branches many feet in length, covered with broad leaves and rich clusters of juicy fruit, spring from little brown, woolly buds; in the lilac, with its plume-like flowers; and in the horse-chestnut trees, whose swollen buds seem to wait for the coming of spring.

What did a German botanist, looking through a microscope, discover in a single horse-chestnut bud no larger than a pea?

Ans. Twenty-eight leaves, and a spike of sixty flowers.

Can you think of anything which you have ever known more wonderful than this? —

Of what is the outside of buds formed?

Ans. Of little scales lapping over each other like the scales of a fish, or like shingles or slates on a roof.

Why are buds so made?

Ans. To keep the tender shoot safe from cold and wet.

What further protection have the tender buds of some trees and plants?

Ans. A coating of gum, or resin, which no moisture can penetrate.

What is found inside the scales of some kinds of buds, in very cold climates?

Ans. A downy lining, which has been likened to an infant's soft cradle-blanket.

At what season of the year are the buds of trees, shrubs, and vines, formed?

Ans. At the close of summer.

Where are the buds formed?

Ans. At the root of every leaf: each leaf has an infant bud committed to its keeping, which it feeds and protects till the bud is strong enough to live alone; and then, the leaf being ripe, and having done its work, drops off and falls to the ground.

What becomes of the life of the bud then?

Ans. It sleeps in the bud all through the winter.

What do the buds contain wrapped up within them?

Ans. The vegetation of the next year.

Why are they so carefully guarded from the inclemency of winter?

Ans. That seed-time and harvest may never fail.

What is the law of their formation?

Ans. They are always seen on the end of branches, where they enclose the new branches for the next year, and at stated distances from each other, through the whole length of each twig.

What takes place in the tree before the buds can begin to swell in the spring?

Ans. The warmth of earth and air causes the sap to swell in the roots, and afterwards to creep up the trunk in the little tubes, till it reaches the buds and starts them into life.

What is a noticeable fact about the growth and swelling of buds?

Ans. Though it changes the whole face of nature, it is a perfectly noiseless process.

Do all buds form, and swell, and burst, at the same time?—

Are any buds of use to man, except by the lessons which they teach him?

Ans. Yes. Some are used as spices, and some as medicines.

What have been likened to flower-buds?

Ans. The little children.

In what respect are they like flower-buds?

SECOND SUNDAY IN APRIL.

GRASS.

"Sing to the Lord with thanksgiving;
Sing praises upon the harp to our God!
Who covereth the heavens with clouds,
Who prepareth rain for the earth,
Who causeth grass to grow upon the mountains."
Ps. cxlvii. 7, 8.

How does David evidently regard the grass?

Ans. As one of God's best blessings to the earth; worthy of praise and thanksgiving to the Creator.

In what does its great value consist?

Ans. In the service which it renders to the earth by binding the soil together, and keeping the sands in their places; in the food which it furnishes to nearly all of God's creatures; in the beauty with which it everywhere greets the eye, and in the lessons which it teaches us.

In what parts of the earth is it found?

Ans. Wherever man can make a home for himself, there the grass grows green at some seasons of the year.

Are there any portions of the earth where it does not grow?

Ans. In sandy deserts, wherever they are found.

What is their condition?

Ans. They are barren and desolate, dried and scorched by wind and sun.

What would be the condition of the rest of the earth without grass?

Ans. Almost as uncomfortable and uninhabitable as they are.

In what does the beauty of grass consist?

Ans. In the softness, and smoothness, and freshness which it presents to the eye, and in the delicate beauty of its coloring.

Why do we suppose that the Creator used green for the coloring of the grass, instead of yellow, or red, or any other color?

Ans. Because no other color is so grateful to the eye.

Is all grass alike?

Ans. No. There are many hundred varieties; about three hundred in the United States alone.

What do the grasses include?

Ans. All the grains — wheat, rye, oats, barley, Indian corn, &c.

What is the manner of their growth?

Ans. From within outwards.

How large a proportion of the whole vegetable world do grasses constitute?

Ans. One eighth part.

How are they used as food?

Ans. Beasts crop their leaves in summer, and chew them dried in winter; man grinds the seeds of grains, and uses them in many ways; and the birds feed on the seeds of the grasses, generally so called.

What can you say of the blossoms of the common grasses?

Ans. They are very minute, yet have all of the requisite parts.

Can these parts all be seen?

Ans. Only by aid of the microscope.

Who alone sees every part?

Ans. He who made them all.

Does God fashion each little grass-blade separately, or do they all grow by some fixed law of His?

Ans. According to a law.

Is not that a wonderful provision? —

What have the grasses been called?

Ans. "Nature's care."

Why is this?

Ans. Because of the especial provision which seems to have been made to secure their preservation and increase.

In what does this consist?

Ans. In their hardiness, their almost unconquerable disposition to spread, the various ways in which they are propagated, the renewal of their life after the winter's cold, and the preference of grass-eating animals for their leaves, leaving untouched the stems which support the seed.

What further has been said about this?

Ans. They thrive under a treatment by which other plants are destroyed; the more their leaves are consumed, the more their roots increase; the more they are trampled on, the thicker they grow.

By what means besides the diffusion of seeds are they propagated?

Ans. Some, which grow on high mountains,

where it is too cold to ripen the seed, throw out suckers, or shoots, which spread along the ground, and these take root; and in some other kinds the seeds begin to grow while in the flower, and new plants are thus formed with leaves and roots, which fall to the ground and take root there.

What are some of the lessons which we may learn from the grass?

Ans. Cheerfulness and humility.

How cheerfulness?

Ans. In its enduring all kinds of violence and suffering, and still continuing fresh and bright, to rejoice all the earth.

How humility?

Ans. By accepting uncomplainingly the lowest place and the lowest service, and still blossoming and bearing fruit, and blessing the earth.

How is it usually spoken of in the Scriptures?

Ans. As an emblem of the shortness and uncertainty of man's life.

Of what does it furnish us abundant proof?

Ans. Of God's care and thoughtfulness for the comfort and enjoyment of His creatures in every particular.

THIRD SUNDAY IN APRIL.

GROWTH.

When Jesus called the attention of his hearers to the lilies of the field, what did he tell them to consider?

Ans. "Consider the lilies of the field, how they grow." Matt. vi. 28.

May we not infer from this that there is something worthy of our notice in the process of growth? —

What does the word "growth" mean?

Ans. It implies increase and development.

How is it described in the Scriptures?

Ans. "First the blade, then the ear, after that the full corn in the ear." Mark iv. 28.

From what do all plants proceed?

Ans. From a very small beginning, whether it be seed or cell, or bulb or shoot.

Do all plants grow equally? —

Do all grow with the same rapidity? —

What plants grow the most rapidly?

Ans. Vines.

Which grow to the greatest magnitude?

Ans. Trees.

In what direction do plants grow?

Ans. Upwards, downwards, and around.

Why must they grow downwards?

Ans. That they may be firm and well rooted.

How high have the tallest trees upon the earth grown?

Ans. Nearly four hundred feet.

What is the largest known diameter of a tree trunk?

Ans. Forty feet.

How large an area has a single tree been known to cover?

Ans. Over seventeen hundred square yards.

In what time do plants attain their growth? —

Do we ever see the process of growth? —

In what two ways do all plants grow?

Ans. From without inwards, and from within outwards.

Mention some which grow on the outside.

Ans. Nearly all trees.

In what way does the growth of a tree take place?

Ans. From the leaves downwards; each leaf, as it matures, sends materials for new wood down the stalk.

What is the character of those which grow from within outwards?

Ans. They shoot up to a great height, and have a smooth skin instead of a bark.

Mention instances of this kind of growth.

Ans. The palms, among trees; also rushes, Indian corn, &c.

Do plants accomplish growth by any effort of will? —

Is anything outside the plant essential to its growth?

Ans. Yes, air and moisture; light and warmth also favor it.

Who furnishes these requisites?

Ans. God not only surrounds the plant with the conditions of growth, but He adapts it to those conditions.

In what part of the earth is growth most luxuriant?

Ans. In the torrid zone.

Why is this?

Ans. Because all the conditions of growth abound there.

How is growth in the frozen regions?

Ans. It is slow and stunted.

What effect does vegetable growth have upon the air?

Ans. It purifies it.

How?

Ans. By giving out oxygen to supply the loss which the air constantly sustains.

How does the air lose its oxygen?

Ans. Animals, in breathing, consume it.

Is this compensation accidental?

Ans. No. It is only another proof of God's wisdom.

What is a characteristic of growth?

Ans. Symmetry.

What is symmetry? —

What else can you say of growth?

Ans. That it is a mystery.

What are some of the mysteries connected with it?

Ans. That from the same soil, and the same air, and the same moisture, should come growths so unlike each other: two water lilies spring up side

by side, surrounded, so far as we see, by the same influences; one is rank and noxious, the other pure, and fragrant, and lovely. So too, in the same plant, from the same materials, come stem and leaf, and blossom and fruit.

Of what is growth the result?

Ans. Of a combination of forces; mechanical, chemical, and vital.

Is growth confined to vegetable life?

Ans. No. There is animal growth also.

Is there any limit to growth, and upon what does it depend? —

Why was a limit necessary in the vegetable world?

Ans. Because otherwise the earth would have been covered long ago with a tangled mass of vegetable life.

Why were limits necessary to animal growth? —

In which of the Creator's works are we not aware of any growth?

Ans. In the rocks, the mountains, and the heavenly bodies.

Does this natural growth correspond to anything in our spiritual nature? —

To what does it correspond?

Ans. To the capacity for growth which the Creator has implanted in our minds and souls.

Is the growth of the mind one thing, and of the soul another, or are they the same? —

Has God surrounded us with the conditions for their growth? —

What are these? —

Is their growth from without or from within? —

Is it dependent upon the will of the individual? —

Are there any limits to it? —

Have we any duties connected with it, and if so, what are they? —

What growth does the apostle Peter enjoin upon those to whom he wrote?

Ans. "Grow in grace and in the knowledge of our Lord and Savior Jesus Christ." 2 Peter iii. 18.

How shall we grow in the knowledge of Christ? —

What advantage will there be in it? —

FOURTH SUNDAY IN APRIL.

HEN AND CHICKENS.

"O Jerusalem, Jerusalem! thou that killest the prophets, and stonest them which are sent unto thee, how often would I have gathered thy children together, even as a hen gathereth her chickens under her wings, and ye would not!" *Matt.* xxiii. 37.

By whom were these words spoken, and on what occasion? —

Where is Jerusalem, and why did Jesus make use of this expression? —

For what purpose does a hen gather her chickens under her wings? —

What prompts her to do it? —

Of what does the love of a hen for her chickens remind us?

Ans. Of the love of a mother for her children.

Do all animals love their young? —

By whom is this love implanted? —

Why has God given to animals this love for their offspring? —

Can you think of more than one reason? —

Do not these show the wisdom and the love of God's appointments? —

What did Jesus mean to imply when he said, "How often would I have gathered thy children together, as a hen gathereth her chickens under her wings"?

Ans. His tender love for the city of Jerusalem.

What may we learn from this of the heart of Jesus? —

What did his love lead him to do?

Ans. To lay down his life with bitter suffering.

If Christ so loved us, what ought we to do? —

What will the love of Christ do for our hearts? —

Would the little chicken be safe if there were no mother hen to go to? —

Would it be happy? —

Do children need a parent's care as much as little chickens do? —

Do they trust to their mother's love? —

Are they the happier for that trust? —

When children grow up and become men and women, do they still need some one to go to? —

To whom can we all go? —

To whom did Jesus always go in his seasons of trouble? —

What did God give him, and what will He give to all who put their trust in Him? —

Is God as loving to His children as a mother to her child?

Ans. Jesus says, "If ye then, being evil, know how to give good gifts unto your children, how much more shall your Father which is in heaven give good things to them that ask Him." Matt. vii. 11.

Do the chickens teach us any lesson?

Ans. Yes. Lessons of trust and obedience.

How do they do that? —

What does the apostle Paul say about the duty of children to their parents?

Ans. "Children, obey your parents in the Lord, for this is right." Eph. vi. 1.

What did he write to the Colossian children?

Ans. "Children, obey your parents in all things; for this is well pleasing unto the Lord." Col. iii. 20.

How long should children obey their parents? —

How long should they show them affection and respect? —

What example is given, which is before every other, of obedience to parents?

Ans. St. Luke says, that after being at Jerusalem at the feast of the passover, Jesus came to Nazareth with his parents, "and was subject unto them."

Of what was Jesus' whole life a beautiful example?

Ans. Of obedience to the will of his Father in heaven.

What does he say about it?

Ans. "My meat is to do the will of Him that sent me." John iv. 34.

In the hour of his greatest trial, what did he say?

Ans. "Not what I will, but what Thou wilt." Mark xiv. 36.

FIFTH SUNDAY IN APRIL.

See Appendix.

FIRST SUNDAY IN MAY.

BIRDS.

What did Jesus say about the birds, in the Sermon on the Mount?

Ans. "Behold the fowls of the air; for they sow not, neither do they reap, nor gather into barns. Yet your heavenly Father feedeth them." Matt. vi. 26.

To what particular fact about the birds does he call our attention?

Ans. To the fact that our heavenly Father feedeth them.

What will we consider first about birds?

Ans. The way in which our Father feedeth them.

Does God set the food directly in the way of the birds?

Ans. He does not. He prepares the food, and teaches them how to find it.

Do all birds choose the same kinds of food? —

Is there not wisdom in this arrangement? —

Where do birds find their food?

Ans. In the air, on the earth, and in the sea.

What food do they find in the air?

Ans. Swarms of insects, great and small, both by night and day.

What do they find on the earth?

Ans. Fruits, and nuts, and seeds.

What else?

Ans. The bodies of dead animals; and the larger birds even carry off small living creatures.

What are these birds called?

Ans. Birds of prey: such are eagles, vultures, buzzards, ravens, &c.

What good do they do in that way? —

What food do birds find in the earth?

Ans. Worms and bugs, and the larvæ of various insects.

What food do birds find in the water?

Ans. Fishes and insects.

Mention some of the birds which seek their food in the water.

Ans. Gulls, snipes, albatrosses, herons, &c.

Where else do birds find food?

Ans. In the cups of flowers.

What do they find there?

Ans. The sweet juices of the flowers.

Mention one bird which finds food in the flowers.

Ans. The humming-bird; but it feeds on insects also.

What has God given to the humming-bird with which to gather honey?

Ans. A long, tapering bill, and a very long tongue, which has a little spoon at the end of it.

Of what favorable circumstances do birds sometimes avail themselves to get their food?

Ans. Starlings and magpies, and some other birds, sit on the backs of sheep and deer to pick the vermin from them; other birds, as the wagtail,

play about the noses and legs of cattle as they feed, to get the flies and insects which abound near them; some kinds keep with herds of buffaloes for the same purpose. Many little birds follow the plough to pick up the grubs and worms which it turns up, or come regularly to our doors for the crumbs we scatter.

Would all this variety of food do them any good if God did not teach them which to choose? —

Does He give them different implements with which to get their different kinds of food? —

What has He given to the vulture, the hawk, and the eagle?

Ans. Sharp claws with which to snatch their food, and a very strong beak with which to tear it in pieces.

What has He given to the woodpecker with which to get the worms from under the bark of trees?

Ans. Sharp claws with which to run up the trees, a stiff tail to lean against, a long bill, and a forked tongue.

What has He given to birds which find their food in the water?

Ans. To some, long legs for wading, and long necks; to others, webbed feet for swimming.

With what has God provided the birds that live on seeds or grain?

Ans. With a little grist-mill to grind the grain.

By what name is it called?

Ans. The gizzard; and it is provided with stones for grinding, and a hopper to feed the mill, called the crop.

Do birds of prey have this mill?

Ans. They do not.

What have they instead of it?

Ans. A powerful fluid in the stomach which dissolves their food.

What peculiarity has the cross-bill?

Ans. The beak is crossed in such a way as to enable it to get out the pine seeds from the cones in which they are hidden. This is their principal food.

With all the food provided for birds, and all their various implements for getting it, what would become of them if they could only walk about as we do?

Ans. A great proportion of them would starve; and as they would be constantly under foot, they would be trodden to death.

How has their heavenly Father guarded against this?

Ans. By giving them strong wings with which to fly.

How else has He aided them to fly?

Ans. By the structure of their bones, which are hollow and full of air; by the lightness of their feathers, and by furnishing them with a rudder (the tail), to guide their flight.

How can they discern their food when they are so high above it?

Ans. Their eyes are made like little spy-glasses, so that they can see minute things a great way off.

What have birds to feed beside themselves?

Ans. Their young birds.

How often do they feed them?

Ans. Some kinds oftener than others; many kinds, every few minutes, all the day.

Do birds find their winter store in the same place as their summer food?

Ans. Nearly all birds spend the winters in warmer climates, where food is more abundant.

How far do birds sometimes go for their winter quarters?

Ans. Thousands of miles, over oceans and continents.

Do they return to the same spot again the next season?

Ans. Many kinds do, year after year, for many years.

Do they usually go alone, or in companies?

Ans. Most kinds go in companies; pigeons fly in flocks of millions.

Where was it formerly supposed that birds spent the cold season?

Ans. Some writers maintained that they wintered with the fish, deep down in the water; others, that they flew to some undiscovered satellite of the earth.

What is necessary in order to supply such an abundance and variety of food to an innumerable number of creatures of all sizes?

Ans. Wisdom, and forethought, and love, and unlimited power.

Where alone do we find these united?

Ans. In God.

What is said about the birds in the Book of Psalms?

Ans.

"He giveth to the cattle their food,
And to the young ravens, when they cry."
Ps. cxlvii. 9.

SECOND SUNDAY IN MAY.

BIRDS — (continued.)

What did Jesus say at another time about the birds?

Ans. "Are not two sparrows sold for a farthing? and one of them shall not fall to the ground without your Father." Matt. x. 29.

What do we learn from this?

Ans. That God cares for birds in other ways besides to feed them.

What further do we learn from these two passages?

Ans. That Jesus noticed and cared for the little birds.

If our Father cares for every little bird, and watches over it, and if Jesus noticed and loved them, what should we do?

Ans. We should love to learn about them, and should make them our care also.

Are we indebted to the birds for anything?

Ans. Yes. For the pleasure of seeing and watching them, for the sweet songs they sing to us, and for their cheerful companionship.

What further service do they render to man?

Ans. Both the bodies of birds and their eggs supply him with nutritious food. Some birds destroy worms and bugs, and flies and insects, of various kinds. Many others almost live on seeds of

weeds, which they use more freely than those of cultivated plants; and their feathers are useful to him in many ways.

Mention some of these uses.

Ans. For quills, beds, pillows, cushions, clothes, ornaments, and fishing.

Is the use of quills extensive?

Ans. In one year 26,500,000 foreign quills were imported into England, besides the home production.

What can you say of their use for clothing?

Ans. In the polar regions, the skins of large birds, with the feathers worn inside, are much used; and formerly in China, and other Eastern countries, garments of feathers were worn by royalty, and by persons of wealth and rank.

What other service have they rendered man?

Ans. The carrier pigeons have been trained as messengers from very early times. In the East a post system, in which these birds were the carriers, was kept up for nearly a hundred years, about the twelfth century. The birds carried the letters fastened under the wing. They are still somewhat used, not only in Asia, but in some parts of Europe.

Do birds often injure man?

Ans. Occasionally they steal his fruit, or even the corn which he has planted; but they do him infinitely more good than harm.

In what do they excel God's other creatures?

Ans. In the beauty of their covering, the melody of their voices, and the grace and rapidity of their movements.

What can you say of their plumage?

Ans. That among birds are found, not only every known color, but every possible combination of colors.

Where are the most beautiful birds found?

Ans. In hot climates.

What is usually the color of birds in the polar regions?

Ans. They are usually black, or of a sombre color.

How many kinds of birds are there?

Ans. More than seven thousand.

How many different kinds are mentioned in the Scriptures?

Ans. About thirty.

Are these known now?

Ans. Nearly every one.

How many varieties of any single kind of birds are known?

Ans. Of the humming-bird, four hundred varieties have been noticed.

What can you say of the rapidity of their movements?

Ans. It varies very much. Some kinds fly very slowly. The pigeon has been known to fly twenty-seven hundred miles in a day, and the swift nearly six thousand, or two hundred and fifty miles in an hour.

What other curious thing can you tell about it?

Ans. It eats and drinks on the wing.

How long can a bird fly without stopping?

Ans. They have been known to keep on the wing sixteen hours.

Can all birds fly?

Ans. There are some kinds whose wings are so short that they can scarcely fly at all.

What is noticeable about birds in this respect?

Ans. That when they are deficient in one particular, there is always some compensation; bad flyers are good walkers or divers; owls, which can see but little, have quick hearing; birds with plainest costume are usually the sweetest songsters; also, short legs are usually accompanied by long wings; and to every bird is given all that is needed for its comfort and well-being.

Which senses are particularly keen in birds?

Ans. Sight, hearing, and touch.

Which are feeble?

Ans. Smell and taste.

Is there not wisdom in this? —

To what has a bird been likened?

Ans. To "a model ship, constructed by the hand of God." The breast-bone resembles the keel; the wings, the sails; the tail, the rudder. "Like the ship, they combine swiftness, lightness, and manageability."

What marked contrast is there?

Ans. The ship sails best with the wind; but a bird must fly against the wind to fly with ease, or to continue long upon the wing.

To what else have they been likened?

Ans. To "a high-pressure engine, which con-

sumes as much fuel as three or four common machines."

What is meant by that? —

What has been said about the life of birds?

Ans. That they live longer in a given time than any other creature; for they see more, act and travel more, — many of them crossing oceans and continents every year of their lives.

What further has been said of them?

Ans. "The trees are their temples and their dwellings, the winds sing their lullaby, and they need no sheltering, for the rain does not wet them."

How old do they live to be?

Ans. Some kinds only two or three years, while others live a hundred years.

Where are their homes?

Ans. Among rocks and in dens, in trees and shrubs, and in earth and water.

What curious habit have many birds which is an example to us?

Ans. They bathe every day; but when they cannot get water, they take dust baths.

How did Jesus conclude his saying about the sparrows?

Ans. "Fear not, therefore; ye are of more value than many sparrows." Matt. x. 31.

Why are we of more value than many sparrows?

Ans. Because of the spirit within, whose dwelling we are.

Does God care for these bodies of ours?

Ans. He numbers the very hairs of our head.

What is the lesson we are to learn from God's care of the birds?

Ans. The lesson that He is Love; and that we may trust ourselves to His keeping.

If God so cares for our frail bodies, does He not much more care for our spirits, made in His likeness?

THIRD SUNDAY IN MAY.

BIRDS' NESTS.

What is the subject of the lesson for to-day, and why is it suited to the season of the year? —

What is said about birds' nests in Ps. lxxxiv. 3?

Ans.

"The very sparrow findeth an abode,
And the swallow a nest, where they may lay their young."

How long ago was that?

Ans. Not far from three thousand years.

Do birds build nests to live in? —

Would a bird ever make a nest if it was not going to be a mother-bird? —

Does a man build a house to live in all alone? —

For what purpose does a man build a house?

Ans. To make a home for those he loves.

Does the bird wait till it has a family before it builds its nest? —

How does the bird know that it will need the nest? —

Mention some of the things which God teaches birds and animals. —

Does He not seem to teach them more than He teaches us? —

Why is that? —

What else does God do for the bird?

Ans. He gives it a building spot, and materials for building, and instructs it how to do the work.

What do we notice particularly about birds' nests?

Ans. The fitness of their location to the habits of the birds, the judicious choice of building materials, the beauty and firmness of their structure, the variety of their forms, and the many contrivances for safety.

Do different kinds of birds choose the same sort of places to build in? —

Mention some of the different places where nests are built. —

Does each kind of bird choose the spot best for itself? —

Would an eagle ever build in a place suited for a sparrow's nest, or a swallow where an eagle would build? —

What kind of places do birds of prey choose?

Ans. High rocks or trees, where they have a better view of their prey, and where they are more secure from the enemies they make.

Where do ducks, and geese, and loons, and other water birds build?

Ans. In the reeds and high grass which grow near the water.

What birds bore holes in banks of earth or sand to build in?

Ans. Kingfishers, and bee-eaters, and sand-martins, and stormy petrels, and many others.

What is the most common location for a bird's nest?

Ans. In some part of a tree. Here, too, we see a wide difference; some birds choosing the top-

most branches, as rooks, crows, &c.; others, the ends of limbs, where their cradles will be rocked by every breeze; others, the forks of trees, where they will be hidden by the branches; and others, the grass about the trunk and roots; while others, still, make or find holes in dead trunks or branches, in which, when they have fitted and furnished them, they rear their little families.

Where does the cross-bill always build its nest?

Ans. On pine tree branches.

How do they fasten their nests to the tree?

Ans. By using the gum of the tree.

What other use do they make of the gum?

Ans. To plaster the nest over, so as to keep out rain and melted snow.

Do all birds build nests?

Ans. No, many kinds do not. The night-hawk and the goat-sucker lay their eggs on the bare ground, and the ostrich buries hers in the hot sand.

What do the cuckoo and the sparrow-hawk, the starling and the kestrel, often do?

Ans. They steal the nests of other birds, or take those which have been deserted.

What can you say of the size of birds' nests?

Ans. Like the location, it is suited to the wants of the bird, and depends upon the number and size of the little birds for whom it is built. The nest of the smallest humming-bird is smaller than a hen's egg, while the eagle's nest is four or five feet across; and there are all possible gradations between them.

What can you say of their form?

Ans. It varies as much as their size; several kinds, like those of the yellow-bird, are in the form of a cup; others, like the oriole's, are shaped like a purse; the oven-bird builds a nest of clay, which looks like an oven; that of the titmouse is shaped like an egg; some are flask-shaped; some look like a hammock, and are swung in the same way; some are almost flat, and some are long and funnel-shaped, terminating in a point at the lower end.

Do birds of the same kind all build their nests alike?

Ans. They do.

What materials does the bird use?

Ans. The larger kinds use dried sticks and twigs; some make use of leaves, and reeds, and dried grass, and clay, and mud; while the smaller kinds choose mosses, and lichens, and cotton, and wool, and feathers, and spiders' webs, and bits of thread, and the down of thistles, or of winged seeds, or any soft substance which they can find.

What have birds sometimes been known to do?

Ans. To carry off laces and muslins which have been spread out to bleach, and to weave them into their nests.

Are the outside and inside of a nest made of the same materials?

Ans. No. The outside is usually rough, while the inside is very soft, and is made of materials which are non-conductors of heat, and so keep the eggs and young birds warm, such as wool, cotton, down, felt, hair, and feathers.

What are some of their contrivances for safety?

Ans. One bird covers its nest with thorns; the humming-bird, the wren, and many others, cover theirs with lichens, or the material which most closely resembles that upon which it is built; while some birds suspend their nests over the water, many of which have their entrances on the under side; and others, still, build long passages leading to their nests.

Are there many birds which suspend their nests over water?

Ans. Yes. In hot climates they are very numerous.

What enemies have birds against which they are obliged to be so watchful?

Ans. Snakes, monkeys, larger birds, and sometimes human beings.

Does the time ever come when there is no harm in carrying off a bird's nest?

Ans. Yes. When the little birds have flown, and the birds have no further use for it.

Should not all boys remember this?

FOURTH SUNDAY IN MAY.

BIRDS' NESTS — (continued.)

Do birds always build their nests singly?

Ans. They do not. Rooks always build in companies, and as near together as possible. Swallows build side by side; so do martins; and the sociable weaver-birds of South Africa build under one roof.

How do they construct their nests?

Ans. They hang a quantity of tough grass over a strong limb of a tree, and by means of weaving and plaiting, they form a roof under which are placed a number of nests; new nests are added with each successive brood, and when there can be no more under the roof, they enlarge it and continue to build.

How long do they do this?

Ans. Until the branch is unable to endure the weight, and falls to the ground: this does not often occur while the nests are occupied, but takes place during the rainy season, when they become heavy with the water which the dried grass has absorbed.

How large are these nests?

Ans. They are so large as to be often mistaken for the huts of human beings; and more than three hundred separate nests have been counted in a single colony.

What other birds build in companies?

Ans. Ducks, and sea-gulls, and many others: the northern coasts in many places abound in bird life, and the cliffs and rocks are covered with their nests, so that one can scarcely walk without stepping upon them.

Mention some particularly curious birds' nests.

Ans. In the Island of Ceylon the tailor-bird makes a very curious nest with leaves.

How does it do it?

Ans. It chooses a leaf upon the tree, and pierces holes with its beak all around the edge of it; then it sews the leaf into a little purse-shaped nest, by means of these holes; or if the leaf is too small, it sews a dead leaf to a living one.

Where does it get its thread?

Ans. It generally takes a long fibre of some plant, or it makes it from cotton, which it picks from the shrubs, and spins with its bill and feet.

What needle does it use?

Ans. Its bill is its needle, and answers good purpose.

What other sewing-bird is there?

Ans. The fan-tailed warbler, which has this peculiarity, that it uses short threads, and ties a knot in the end of each to prevent it from being pulled out.

What other singular birds' nests can you mention?

Ans. The nest of the edible swallow, which is much used in China for food.

How is it used?

Ans. In making soups.

Where are these nests found?

Ans. In Borneo, Java, and the neighboring islands, and are built on the sides of steep precipices, so that it is exceedingly dangerous getting them.

What is the material used in their construction?

Ans. It is unknown; some suppose it to be fish spawn; others think it is a kind of sea-weed; while others believe it to be a substance secreted by the glands of the bird's throat.

Can you describe these nests?

Ans. They are built in groups, are about as large as a goose's egg, and shaped somewhat like a clam-shell; are white, or pinkish, in color, and nearly transparent, being about as thick as a silver spoon.

Are they extensively used?

Ans. They are only used in China; but over a million of dollars' worth is brought to Canton every year.

How long does it take for a pair of these birds to build a nest?

Ans. They have been known to build them in a few days.

When do birds begin to build their nests?

Ans. Just in time to have them finished when they need them.

Do you suppose it is as much work for a bird to build a nest as for a man to build a house? —

Do you think the bird takes as much care to build its nest nicely, and keep it neat, as we do with our houses? —

How do birds sweep their nests?

Ans. With their wings.

Do they ever use their nests more than one season?

Ans. Yes. Sometimes they use them again just as they are; sometimes, when they have been injured by storms, they repair them; and sometimes they build new ones.

Could a man build a bird's nest as well as a bird can? —

Could a man teach a bird anything about building nests? —

Who teaches the bird?

Ans. The Great Teacher.

Can the study of the birds' nests teach us anything?

Ans. It teaches us forethought; as the little bird builds its nest before it is needed, so we should do our work in season, preparing in sunshine for storms, in health for sickness, in life for death.

What else does it teach us?

Ans. Thoroughness and nicety in all our work; and as the bird builds its nest, not for its own comfort, but for the comfort of its little ones, so it teaches us to work unselfishly for others.

Does it teach us anything about God?

Ans. Yes. Nothing tells us more plainly of His wise care, and His loving forethought for the comfort and happiness of every one of His creatures.

What is the lesson, then, to our souls?

Ans. A lesson of trust and faith.

FIFTH SUNDAY IN MAY.

See Appendix.

FIRST SUNDAY IN JUNE.

THUNDER AND LIGHTNING.

"His lightnings illumine the world:
The earth beholdeth and trembleth." *Ps.* xcvii. 4.

Why did the earth tremble at God's lightnings?

Ans. Because the nature and purpose of the lightning were not understood, and no means of protection from it were known.

Is it understood now?

Ans. To some extent; but we do not know how much more may be discovered.

What are we sure of respecting it?

Ans. That it is a beneficent agent, sent to bless the world.

What causes the lightning?

Ans. The passage of electricity through the air.

What is electricity?

Ans. A power which exists in all substances.

Is it a visible power?

Ans. Not in its natural state; there must always be some disturbing cause to produce its manifestation.

What are some of these causes?

Ans. Friction, the decomposition of animal and vegetable matter, heat, and its effects (evaporation and condensation), and magnetism.

To what is atmospheric electricity owing?

Ans. To some or all of these causes.

In how many states does electricity exist?

Ans. In two, which are called positive and negative, by some; by others, vitreous and resinous.

What is the positive state?

Ans. When electricity exists, or is excited in any body, in an amount more than is natural to that body.

What is negative electricity?

Ans. When there is less electricity in any body than is natural to it.

What is the first law of electricity?

Ans. To find an equilibrium between its positive and negative states.

What results from this law?

Ans. All the phenomena of electricity.

How does electricity find this desired equilibrium?

Ans. By passing from those bodies where it exists positively to those which are in a negative state.

How does it pass from one body to another when there is no intervening substance, or only one which favors its passage?

Ans. Invisibly, silently, and harmlessly.

What are such bodies as favor the passage of electricity called?

Ans. Conductors.

What are those called which do not favor its passage?

Ans. Non-conductors.

What is the result when electricity, in seeking an equilibrium, meets with a non-conductor?

Ans. Heat and light are developed.

When are we accustomed to see this result?

Ans. In the lightning's flash.

How is it produced?

Ans. Two clouds, or two strata of air, charged with opposite electricities, approach each other; the air between them is a non-conductor, and the flash is caused by the effort of the electricity to force its passage through the air.

How is the lightning a blessing to mankind?

Ans. When the atmosphere is full of impure vapors, it causes discomfort and sickness; and the lightning is sent to purify it, and make it fit to breathe.

How does it do this?

Ans. By restoring the equilibrium of electricity, which is necessary to a healthy state of the atmosphere.

What newly discovered element owes its formation, in a great measure, to the thunder storms?

Ans. Ozone.

What is the nature of ozone?

Ans. It is a powerful disinfectant; that is, it neutralizes and counteracts unhealthy exhalations, or whatever would cause infectious diseases.

What results from the absence of ozone?

Ans. Prevailing sickness.

In what other way has electricity been found useful to man?

Ans. It is the agent by which the telegraph operates, and is sent on messages from one quarter of the earth to another, over continents and under oceans.

What may be said of all of God's agents?

Ans. That they work together for good to those who obey his laws.

SECOND SUNDAY IN JUNE.

THUNDER AND LIGHTNING — (continued.)

"The voice of Jehovah is powerful;
The voice of Jehovah is full of majesty;
The voice of Jehovah breaketh the cedars;
Yea, Jehovah breaketh the cedars of Lebanon.
The voice of Jehovah divideth the flames of fire;
The voice of Jehovah maketh the wilderness tremble."
Ps. xxix. 4, 5, 7, 8.

What is the subject of this twenty-ninth Psalm?

Ans. The glory of God as manifested in a thunder storm.

What is said on the same subject in Job xxxvii. 2–5?

Ans.

"Hear, O hear, the thunder of His voice!
And the noise which goeth forth from His mouth!
He directeth it under the whole heaven,
And His lightnings to the ends of the earth.
After it the thunder roareth;
He thundereth with His voice of majesty,
And restraineth it not when His voice is heard.
God thundereth with His voice marvellously;
Great things doeth He, which we cannot comprehend."

How do the sacred poets uniformly speak of the thunder?

Ans. As the voice of God.

Are we to understand them literally?

Ans. Certainly not. God's voice is heard just as surely in the most silent operations of nature,

as in the tornado, or the earthquake, or the thunder storm.

Why, then, do they use this form of speech?

Ans. Because figurative language was almost universal in the East, and the sacred writings everywhere abound with it.

Will the thunder be any the less the voice of God to our hearts, if we comprehend its nature and its cause? —

Why will it not?

Ans. Because it is by the operation of His laws that it is produced, and the better we understand those laws, the nearer to Him we can come.

If God is speaking to us by all these operations of nature, what is our duty?

Ans. To be reverent learners, trying to discover the lesson which He would teach.

What is thunder?

Ans. It is the sound made by the air as it comes together, after being parted by the electricity.

How is this made?

Ans. When these bodies of air strike each other, it causes them to vibrate; the vibrations strike the drum of the ear, and we hear the thunder.

Do we see the lightning and hear the thunder at the same instant?

Ans. Sometimes, but not usually.

When do they seem to come together?

Ans. When the discharge of electricity is very near the person who hears.

Why do they not always occur together?

Ans. Because light travels nearly a million times

as fast as sound; if the cloud is a long way off, the thunder will not reach the earth till some time after the lightning.

How fast does sound travel?

Ans. A quarter of a mile a second.

How may we calculate by this the distance of a discharge of electricity?

Ans. A person's pulse beats about once in a second; for one beat of the pulse we must calculate a distance of a quarter of a mile; for four beats, a mile.

Is electricity a powerful agent?

Ans. It is more so than any other which is known.

How great a power has it been known to exert?

Ans. A power equal to the raising of 384,000,000 of pounds one foot in a minute.

What has lightning been known to do?

Ans. It once tore a stone church in pieces, taking the massive stones of which it was constructed and hurling them to a distance, as if they were simply bricks.

Is it not possible that man may some time be able to avail himself of this vast power of electricity, to do his bidding in moving and raising stupendous weights, even as he has learned to send it on his errands? —

What is the advantage of understanding the nature of the lightning, and the mode of its operations?

Ans. In this way man is enabled to avoid dan-

gerous localities, and to avail himself of means of protection.

What is the most common of these?

Ans. Lightning rods attached to buildings.

What is their purpose?

Ans. To carry off the electricity into the ground.

Who invented these?

Ans. Benjamin Franklin.

What are the safest situations in a thunder storm?

Ans. If in a building, as near the centre of the room as may be; if in the open air, away from trees or elevated structures; and if the garments are wet by the rain, so much the better, for they will prove good conductors, and carry off a large amount of electricity without the person being conscious of it.

What, more than anything else, gives the feeling of safety and peace in all times of danger?

Ans. An abiding consciousness that the Father surrounds us with His love, and that nothing shall befall us which is not for our real good.

What may we add in conclusion?

Ans.

"Lo! these are but the borders of His work;
How faint the whisper we have heard of Him!
But the thunder of His power who can understand?"

Job xxvi. 14.

THIRD SUNDAY IN JUNE.

TREES.

"And God said, Behold, I have given you every herb, bearing seed, which is upon the face of all the earth, and every tree in which is the fruit of the tree yielding seed: to you it shall be for meat." *Gen.* i. 29.

What is noticeable in this passage?

Ans. That it is the first mention which we have of trees, and that it establishes man's right over them; also, that it states one of their uses.

Where, in the Bible, are trees mentioned?

Ans. In almost every book.

How many kinds are spoken of?

Ans. As many as twenty-five.

What are some of these?

Ans. The almond, apple, ash, balsam, bay, box, cedar, cypress, chestnut, elm, fig, fir, oak, olive, palm, pine, poplar, sycamore, and willow.

How are they mentioned?

Ans. As among God's good gifts to His children.

When Solomon wished to build a temple to the Lord, for what did he send to the king of Tyre?

Ans. "Send me also cedar trees, fir trees, and algum trees out of Lebanon; and behold, my servants shall be with thy servants, even to prepare me timber in abundance; for the house which I am about to build shall be wonderful great." 2 Chron. ii. 8, 9.

What use did Solomon make of the trees?

Ans. And the king made of the algum trees terraces to the house of the Lord, and to the king's palace, and harps and psalteries for singers. 2 Chron. ix. 11.

What other uses of trees are mentioned in Isaiah xliv. 16?

Ans. "He burneth part thereof in the fire, with part thereof he eateth (or cooketh) flesh; he roasteth meat, and is satisfied; yea, he warmeth himself, and saith, Aha, I am warm, I have seen the fire!"

Of what uses of trees does another prophet speak?

Ans. "And the fruit thereof shall be for meat (food), and the leaf thereof for medicine." Ezek. xlvii. 12.

What does the prophet Daniel say of their uses?

Ans. "The leaves thereof were fair, and the fruit thereof much, and it was meat for all; the beasts of the field had shadow under it, and the fowls of the air dwelt in the boughs thereof, and all flesh were fed of it." Dan. iv. 12.

Can you mention any other uses of trees?

Ans. The trunks and branches are used in building houses and ships, in making furniture for our dwellings, and implements of industry, and instruments of music. They also produce gums, and dyes, and spices, and corks, and rubber, and sugar, and perfumes, and fuel (both wood and coal). They give us shelter and shade, they temper the heat of summer and the cold of winter, and they break the fury of the winds as they sweep over the earth.

What is the most useful tree known?

Ans. The palm tree, of which three hundred and sixty different uses have been made.

What is its fruit?

Ans. The date, on which many of the people in Asia and Africa live almost entirely.

Of what was a palm branch considered a symbol?

Ans. Of victory.

Where was it carried?

Ans. Before conquerors, in triumphs.

What mention of it in this connection do we find in the life of our Savior?

Ans. "Much people who had come to the feast, when they heard that Jesus was coming to Jerusalem, took branches of palm trees and went forth to meet him, and cried, Hosanna, Blessed is the King of Israel, that cometh in the name of the Lord." John xii. 12, 13.

How is this event still commemorated?

Ans. By the observance of Palm Sunday.

What was called the City of Palms?

Ans. Jericho.

What city in the East was named from its palm trees?

Ans. Palmyra.

What would be the state of the earth if there were no trees upon it?

Ans. Barren and desolate.

Besides the uses of the trees, how else are they a boon to us?

Ans. By the beauty with which they bless us,

by the lessons which they teach us, and by their influence upon our spirits.

In what does the beauty of the trees consist?

Ans. In their varied, yet symmetrical forms, in the free and graceful movements of the branches, and in the rich and delicate shades of coloring of the leaves, varying with the season of the year.

Do trees wear their leaf garment all the year? — Mention the colors of the leaves in the different seasons. —

Do trees blossom?

Ans. Yes. Of some the blossoms are very beautiful, and often fragrant; but in most of the forest trees, the blossom is so simple in form, or so near the color of the branches or leaves, as scarcely to attract attention at all.

What do trees deserve from us?

Ans. Affection and admiration.

What is due to Him whose work and gift they are?

Ans. Honor, love, gratitude, and duty.

FOURTH SUNDAY IN JUNE.

TREES — (continued).

"And out of the ground made the Lord God to grow every tree that is pleasant to the sight and good for food." *Gen.* ii. 9.

What question does this answer?

Ans. How the trees have their being.

From what do trees grow?

Ans. From seeds.

What are the different parts of trees?

Ans. Roots and trunks, branches and leaves, blossoms and fruit.

What is the work of the roots?

Ans. To keep the tree firm in its place, and to feed it with juices which they have drawn up from the earth.

What is the work of the trunk?

Ans. It supports the top of the tree, and while its fibres give strength to the whole tree, its vessels contain air and sap, and its bark encloses all.

What is the work of the branches?

Ans. To bear leaf and bud, blossom and fruit.

For what are the leaves made?

Ans. They are the lungs of the tree, through which it breathes, and by means of which it grows also; and they protect and nourish the new buds in the beginning of their being.

How do the leaves help the tree to grow?

Ans. Each little leaflet sends down a cord or

fibre of new wood, between the wood and the bark, thus making the tree larger and stronger.

How does a tree grow higher and broader?

Ans. It grows at the end of every branch, sending out two or three branches to every one.

Do all trees grow in the same way?

Ans. No. There are two ways in which they grow; every tree grows in one or the other of these ways.

What are these ways?

Ans. By the addition of new wood on the outside, which is the way in which nearly all trees grow; but the palms form new fibres within, pushing out the old wood.

How large do trees become?

Ans. They vary very much in size; the largest tree known being over three hundred feet in height, and more than forty feet in diameter.

What very large and curious tree can you mention?

Ans. The banyan tree of India, whose branches throw out fibres which descend to the earth and take root, thus forming, from a single tree, a shelter for several thousand persons.

What is the largest known tree in the world?

Ans. An African tree, called the *baobab*, or *monkey's bread.* It does not grow high, but the trunk is from sixty to eighty-five feet round, and the weight of the lower branches bends them to the ground, so that they form a mass of verdure sometimes one hundred and fifty feet in diameter.

Where are some of the tallest and largest trees in the world found?

Ans. In California. Already twenty groves of giant trees have been discovered, which are considered "the oldest and most stupendous vegetable products existing upon the earth."

What is the bread-fruit tree?

Ans. A tree in the South Sea Islands, producing a berry (from four to seven inches in diameter), somewhat like new bread, which is the principal food of the inhabitants.

Has the tree any other uses for them?

Ans. It supplies them with clothing, and many other necessaries of life, and they build of it their boats and houses.

What does the cow tree of South America produce?

Ans. Nice milk, which is obtained by tapping the trees.

What do the people in some parts of North America obtain by tapping maple trees?

Ans. Sweet syrup, of which sugar is made.

What does a tree in Africa yield?

Ans. Its seeds yield butter, and it is called the butter tree.

What does another tree give to the thirsty traveller?

Ans. A drink of clear water, which it catches from the rain and holds in its leaves.

What, then, do the various trees furnish to man?

Ans. Almost everything of which he has need.

What did David say in view of these things?

Ans. "All Thy works praise Thee, O Lord." Ps. cxlv. 10.

To what age do trees live?

Ans. The oldest known living tree is supposed to be about three thousand years old.

What was taking place in the world when it began to grow?

Ans. That was about the time that Solomon reigned over Israel.

Mention some other very old trees.

Ans. There are several in England. A tree in Windsor Forest, called the *king's oak*, was a favorite with William the Conqueror, and is supposed to be one thousand years old; another is standing in Norfolk, England, which was known as the "old oak" in the Conqueror's time.

How is the age of trees ascertained?

Ans. In the case of trees standing, it is necessary to depend almost entirely upon historical records; but the age of any tree can be determined after the trunk is sawn asunder, because the wood is arranged in rings, each year's growth having added a ring.

What was the parable of King Jotham?

Ans. "The trees went forth on a time to anoint a king over them. And they said unto the olive tree, Reign thou over us. But the olive tree said unto them, Should I leave my fatness, wherewith by me they honor God and man, and go to be promoted over the trees? And the trees said to the fig tree, Come thou and reign over us. But the fig tree said unto them, Should I forsake my sweetness and my good fruit, and go to be promoted over the trees? Then said the trees unto

the vine, Come thou and reign over us. And the vine said unto them, Should I leave my wine which cheereth God and man, and go to be promoted over the trees? Then said all the trees unto the bramble, Come thou and reign over us. And the bramble said unto the trees, If in truth ye anoint me king over you, then come and put your trust in my shadow; and if not, let fire come out of the bramble and devour the cedars of Lebanon." Judges ix. 8–15.

What was the meaning of this parable.

Ans. It was a rebuke to the people for their choice of a king.

What is worthy of note about it?

Ans. That it is the first parable recorded.

FIFTH SUNDAY IN JUNE.

See Appendix.

FIRST SUNDAY IN JULY.

HONEY BEES.

"How sweet are thy words to my taste;
Yea, sweeter than honey to my mouth!" *Ps.* cxix. 103.

What is the first mention made of honey in Scripture history?

Ans. When Jacob sent his children into Egypt to buy corn, he told them to take with them presents of balm and honey, spices and myrrh, nuts and almonds. Gen. xliii. 11.

When was that?

Ans. Ages before the coming of Christ.

How was the promised land described to the children of Israel?

Ans. As a land flowing with milk and honey.

Is it spoken of more than once in this way?

Ans. Yes. Many times.

How was this literally true of Palestine?

Ans. The bees built in hollow trees, and in the crevices of rocks, and the combs were oftentimes so full that they broke down, and the honey poured out from them.

What did the ancients think about honey?

Ans. That it fell from the heavens, some said from the stars, and was then gathered by the bees.

How have people learned better?

Ans. By closely watching the habits of the bees.

Why is the honey bee the most interesting of insects?

Ans. Because of its wonderful structure, and its curious habits, and because it has so long shared its sweet food with man.

How do the bees live?

Ans. In communities, or families, called swarms.

Are all the bees in a swarm alike?

Ans. There are three kinds in every swarm; one queen, or mother bee, several hundred drones, or males, and sometimes as many as twenty thousand workers.

What does the queen bee do?

Ans. She lays all of the eggs, many thousands in all, and sometimes as many as six in a minute.

What does she do before laying each egg?

Ans. She runs her head into a cell and examines it; then she comes out and deposits an egg in the cell, fastening it to the top of the cell.

What becomes of the egg?

Ans. In a few days a little white worm is hatched from it.

What becomes of the worm?

Ans. The working bees feed it several days, after which they close up the cell with wax; then the worm spins itself a cocoon, and in a few days more gnaws out and begins its bee life, itself a bee.

What else do the workers do besides caring for the eggs?

Ans. They build the cells and keep them clean, and store them with honey; and they wait upon the queen and upon the young bees.

With what do the workers build the cells?

Ans. With wax.

Where do they get the wax?

Ans. They obtain the ingredients of it from flowers; these undergo a chemical change in their bodies, and the wax drops from them in the form of thin scales.

What is necessary to the production of wax?

Ans. Plenty of food, quiet, and warmth.

What is essential to the wax?

Ans. That it should be soft enough to work, yet hard enough to bear the weight of the honey, and of the young bees.

How is this provided for?

Ans. When it comes warm from the body of the bee, it is soft, and can be easily moulded; as it cools it hardens.

What other quality has wax which is necessary in the material of these cells?

Ans. It does not let air pass through it, and this is necessary to prevent the honey from fermenting.

When the working bees are building the cells, into how many classes are they divided?

Ans. Into three.

What are their separate duties?

Ans. The first band of workers lay the foundation of the cells; the second examines and adjusts the angles, and removes superfluous wax; and the third set wait upon the others, and feed them whenever they are hungry.

Is any other substance besides wax used in building the cells?

Ans. Yes, a substance which they collect from gum-bearing trees, which is called propolis.

What is its use?

Ans. To strengthen the edges of the work, to stop all holes, and to varnish the cells.

What do these little cells form?

Ans. Honey-comb.

What is there wonderful about them?

Ans. Their form and arrangement, and thinness and strength; besides many other things.

What is their form?

Ans. They are six-sided, and closed with flat plates at the ends.

How are they arranged?

Ans. Many cells are grouped together, and to the bases of these is attached a similar group, their mouths opening in opposite directions. Between these double rows of cells spaces are left, making passages between, in which the bees pass and repass.

In what manner do the bees work?

Ans. Commencing at the top, they work downwards.

What has been ascertained respecting the cells, by mathematical calculation?

Ans. That they are so arranged as to give the greatest possible amount of space and degree of strength with the least material.

Why is this important for the bees?

Ans. Because the wax is secreted in very small quantities, while the honey is far more abundant.

Do you suppose the bee plans and arranges, and contrives and reasons? —

If the bee cannot do this, how is it done?

Ans. God works in and through the little bee, and so tells us of His wisdom, and His skill, and His love.

"All things that are, though they have several ways,
Yet in their being join with one advice
To honor God: and so I give Thee praise."

SECOND SUNDAY IN JULY.

HONEY BEES — (continued.)

"Eat honey, my son, for it is good;
And the honey-comb, which is sweet to thy taste;
So learn thou wisdom for thy soul." *Prov.* xxiv. 13, 14.

For what else are the cells used, beside nurseries for the young bees?

Ans. As storehouses for the honey; after the young bees are hatched out, the workers clean out the cells, and prepare them for the reception of honey.

Where do the bees get their store of honey?

Ans. From the flowers.

From all flowers?

Ans. No. They carefully select those which are suited to the purpose, and will make good honey; and they avoid all that are poisonous.

What lesson may the young learn from this? — How do they obtain the juices of flowers?

Ans. Their Creator has furnished them with an instrument for the purpose, called the *proboscis.*

Can you describe it?

Ans. It is an elongation of the under lip, and is covered on all sides with hairs. The bee thrusts this into the flower, and the juice of the flower adheres to the hairs; when she withdraws it from the flower, she passes it through her jaws to scrape off the juice, which she swallows.

What becomes of it next?

Ans. It goes into a little receptacle, called the honey-bag, where it is very soon converted into honey, and from which the bee can empty it, at pleasure, into the cells.

When the bee is not using its proboscis, what does it do with it?

Ans. It folds it up, by means of a little joint made in it for the purpose.

What else do the bees gather from flowers?

Ans. The fine dust called pollen.

What use do they make of it?

Ans. It is mixed with honey and converted into food (bee bread) for the young grubs.

How do the bees collect the pollen?

Ans. The body of the bees is covered with hairy down. As they enter the flowers the pollen adheres to this, and they are soon covered with it. In their hind legs they have ~~ten~~ four little cavities, fringed with hair, called baskets, in which they carry home pollen, propolis, and other materials; the other legs are furnished with delicate hairy brushes, and with these they brush off the dust from their bodies, and then deposit it in their baskets to be carried home.

Do the drones work?

Ans. Not in the same way as the working bees.

Is this because they are idle?

Ans. No; but because God has not given them the proboscis and honey-bags, and brushes and baskets, which the workers have.

What else has He given to the queen and the workers, which the drone has not?

Ans. A sting.

What is the use of the sting?

Ans. To drive away other insects, which would rob them of the sweet food they had gathered, if they were not able to defend it.

Where did bees originate?

Ans. In the East.

When were they introduced into the United States?

Ans. In the latter part of the seventeenth century.

What lessons may we learn from the bees?

Ans. Industry, order, neatness, and obedience; cheerfulness, early rising, unselfishness, and many other things, if we would but listen to them.

How do they teach us industry? —

How do they teach order? —

How neatness?

Ans. In many ways. Every particle of dust and dirt is carried from the hive; and if a snail, or any other creature too large to be driven from the hive, finds its way in, they sting it to death, and then cover it and fasten it to the floor with propolis, so that no bad odor may escape.

What are they particular about beside cleanliness?

Ans. A constant supply of fresh air.

How do they ventilate the hives?

Ans. Some of the workers station themselves by the entrance to the hive, both inside and outside, those outside with their heads towards the door, those within with their heads in the opposite

direction. They then keep their wings in constant motion, and thus produce a powerful current of air. This keeps the hive pure and healthy.

How do bees teach early rising?

Ans. By being up and on the wing as soon as it is light enough for them to see.

How do they teach obedience?

Ans. By the love and reverence they show to their queen mother, whose slightest command they obey.

Can you mention any other traits of the bee, or curious fact respecting them? —

What other lesson do the bees teach us?

Ans. The same as is taught by the fowls of the air. "If God so careth for these, will He not much more care for thee, O thou of little faith?"

THIRD SUNDAY IN JULY.

THE LILY.

When Jesus would teach his disciples not to be anxious about raiment for the body, to what did he direct their attention?

Ans. To the wild flowers growing about them.

What did he say to them?

Ans. "Consider the lilies of the field, how they grow; they toil not, neither do they spin; and yet I say unto you, that even Solomon in all his glory was not arrayed like one of these." Matt. vi. 28, 29.

Why do you suppose that Jesus chose the lily in preference to other flowers, to impress this lesson? —

Will it not help us to understand and obey the injunction of Jesus, if we learn what we can about the growth of the lily? —

Is this all that is necessary?

Ans. No. We must also take to heart the lesson that it teaches.

What is this lesson?

Ans. A lesson of confidence and trust in our heavenly Father's thoughtful care of us, and a lesson of humility.

How many kinds of lily grow wild in Judea?

Ans. Two. A golden colored lily, and a scarlet lily.

Do not the lilies which we know teach the same lesson, and may not the same be said of them also?—

If we consider well the lily, what is the first beginning of it?

Ans. A little, round, scaly root, hidden under ground.

If you take the root and lay it away in a dry, cool place, what do you see?

Ans. No change at all.

If you take the same root, even after a very long time, and give it air and moisture, and warmth and darkness, what will take place?

Ans. It will send down little roots, like white threads, from the under side of the bulb.

What are these for?

Ans. To fix the coming plant firmly in the ground, and to draw up material and nourishment for it.

What shoots upward at the same time that the roots shoot downward?

Ans. A slender green stem.

Has this stem any leaves?

Ans. Different kinds of lilies grow differently. Some have leaves growing from the flower-stalk; in others, the leaves grow separately, coming directly out of the ground, and growing to their full size before the flower-stalk appears.

In either case, what appears at the end of the flower-stalk?

Ans. A closely folded bud, without any uncommon beauty.

When the bud opens, what do we behold?

Ans. A flower, beautiful in form and coloring, and in many kinds sending out a sweet perfume.

From what was the flower formed?

Ans. From the same air and rain, and dew and heat, as nourished the root and strengthened the stem, and caused the leaves to grow.

Is not this a truly wonderful thing? —

What further was added to give coloring to leaf, stem, and blossom?

Ans. Sunshine.

What peculiarity of the lilies can you mention?

Ans. The flower is composed of six parts, called petals; and it has six thread-like stamens rising in the middle of it, and six rows of seeds in its seed-vessels, and these seed-vessels are three-sided, and have three cells and three valves.

What shall we say of this?

Ans. "Who doth not know that the hand of Jehovah doeth these things?" Job xii. 9.

Of how many different colors are lilies?

Ans. They are of almost every color; golden and crimson, and scarlet and blue, and purest white; and they are veined, and striped, and shaded, and freckled, and are beautiful in every way.

"Who can paint like Nature?
Can imagination boast amid its gay creation
Hues like these?"

What more is there in the lily beside these things which we have mentioned?

Ans. "The presence of God, every moment arraying the plant in glory."

What gives the lily a peculiar interest for us?

Ans. The fact that Jesus thought it worthy of his notice.

Of what has the white lily always been considered an emblem?

Ans. Of chastity.

In what pictures is it often seen on that account?

Ans. In pictures of the Virgin Mary.

To what does Jesus allude when he says of the lilies, "They toil not, neither do they spin"?

Ans. To the way in which men make the materials for their garments.

Is it not wonderful to see how the silk-worm's shroud, and the sheep's warm coat, and the down of the cotton, and the fibres of the flax plant, can all be changed into beautiful garments? —

What is more wonderful still?

Ans. To see how from a little root, a slender stem, and a few green leaves, comes a graceful and beautiful flower, to gladden the eye of man, and to teach him the lesson of trust.

What does God give to the lily?

Ans. Its beautiful garment, with which the royal robes of King Solomon, even, will not compare.

What question does Jesus ask?

Ans. "Will He not much more clothe you, O ye of little faith?" Matt. vi. 30.

Does God clothe us in the same way that He does the lily? —

Does He clothe the lily and the bird alike? —

What is necessary to clothe the lily?

Ans. Growth.

What is necessary for man, in order to clothe him?

Ans. Labor, and care, and ingenuity, and materials from God's storehouse.

How does God clothe us, then?

Ans. All these are His gifts, and without Him we could do nothing.

FOURTH SUNDAY IN JULY.

THE RAINBOW.

"I do set my bow in the cloud, and it shall be for a token of a covenant between me and the earth." *Gen.* ix. 13.

What is the Scripture account of this covenant?

Ans. That after Noah came forth from the ark, God made a covenant with him, and with his seed after him, and "with every living creature of all flesh which is upon the earth." Gen. ix. 16.

What was this covenant?

Ans. "That there should never any more be a flood to destroy the earth." Gen. ix. 11.

What was the token of this covenant?

Ans. The bow in the cloud.

It is said, "God set His bow in the cloud;" did He form the rainbow merely by willing that there should be one?

Ans. We believe that it was the necessary result of certain laws which He had established from the beginning, and which are still in operation.

Does that make it any less wonderful, or any the less a proof of God's power?

Ans. No. But on the contrary, it seems all the more so.

How can that be?

Ans. If God had made the rainbow merely by willing it to be, without any natural cause for it,

it would have proved His exceeding power; but the establishment of laws from the beginning, which shall forever bring certain results to pass, speaks not only of exceeding power, but of infinite wisdom and forethought.

What is God's natural law about the rainbow?

Ans. That when the sun is shining in one part of the heavens, and rain falling in the opposite part, a rainbow can be seen by a person standing between them, and looking towards the rain.

Is a rainbow made of rain?

Ans. No. It is made of light; but it is made by the rain.

How is it done?

Ans. The drops of rain turn the rays of light out of their course, and separate them into the different colors of which they are composed.

By what means does the rain turn the light out of its course?

Ans. It is in accordance with one of the laws of light, that its rays shall always be bent in passing obliquely from one medium to another of different density.

How is that shown in this instance?

Ans. Air is one medium, water is another of different density, and consequently the rays, in passing from the air into the drops of rain, are turned out of their course.

How does this separate the rays into their different colors?

Ans. Rays of different colors are not bent equal-

ly in passing from one medium to another, and in that way they are separated.

What else is necessary before we can see the rainbow?

Ans. That the rays of light shall enter our eyes.

How can they do that?

Ans. The rain-drops reflect, or send them back to us.

Does one drop give all the colors to our eyes?

Ans. No. Some drops give one color, some another.

What are the different colors of the rainbow?

Ans. Red, orange, yellow, green, blue, indigo, and violet.

Are they always arranged in the same order?

Ans. Yes. But when there are two bows, the order of the colors is reversed in the outer one, which is a reflection of the first.

What is noticeable in the bow beside its brilliant colors?

Ans. The beauty of its form.

What is that form?

Ans. A perfect circle, or part of a circle.

On what does the bow seem to rest?

Ans. On the horizon; but sometimes it extends below it, and is seen on grass and trees.

Why is a rainbow larger at some times than at others?

Ans. When the sun is exactly on the western horizon, just one half of a circle is above the opposite horizon; but if the sun is above the horizon, then the bow will be less than half a circle.

How can more than half of a complete circle be seen?

Ans. By the observer standing on a high mountain, so that a line drawn from the sun to the opposite horizon shall be below him.

Has a perfect circle ever been seen?

Ans. Yes. Persons on high mountains have sometimes seen one on the clouds beneath them.

Do any two persons ever see the same bow?

Ans. No. Because the eye must be at an equal distance from every part of the circle in order to see it; and no two persons can ever occupy the centre of exactly the same circle.

If the observer changes his place, does he still see the same rainbow? —

Is a rainbow always seen in the east? —

Has the rainbow any material use, or is it capable of being converted to any such use? —

Is it without use, then?

Ans. The Creator has implanted in us a love for beautiful things, which is as much a part of our nature as is a necessity for food or sleep; and every object which gratifies this love of beauty is a proof of His love for us.

What more is it?

Ans. It is a revelation of God to us; an expression of His love of beauty.

What effect do the recognition and enjoyment of beauty have upon us?

Ans. They develop our nature, by lifting us out of ourselves; and so far as we recognize God in

the beauty of the universe, they raise us above ourselves, and brings us nearer to Him.

Of what is all natural beauty a type?

Ans. Of spiritual beauty, such as is in God, and in all good men in less degree.

How does the love of the beautiful make us regard the universe?

Ans. "As the temple of the living God, in which praise is due, and where service is to be performed."

FIFTH SUNDAY IN JULY.

See Appendix.

FIRST SUNDAY IN AUGUST.

THE ANT.

What teacher does Solomon recommend to a certain class of people?

Ans.

"Go to the ant, O sluggard!
Consider her ways, and be wise!"

Who are sluggards?

Ans. Lazy folks.

With what two ways of teaching are we acquainted?

Ans. By precept and example.

Which is best, and in which way does the ant teach? —

What may we learn from having so small a creature recommended to us as a teacher? —

Are there any sluggards now upon the earth, to learn a lesson from the ant? —

Why is the ant a good teacher for them?

Ans. Because of its great industry.

Why else?

Ans. Because it is an early riser.

Is there any other reason?

Ans. Because, "having no guide, overseer, or ruler, she provideth her meat in the summer, and gathereth her food in the harvest." Prov. vi. 6.

What is the lesson which she thus teaches to us all?

Ans. Diligence, and the improvement of present opportunities, whatever they may be; the summer and the harvest last only for a season, and cannot be recalled; so too with our opportunities of culture, and of usefulness.

Why will it be well to study the habits of the ants?

Ans. That we may see if any other lessons are to be learned from one who is recommended to us as a teacher.

Are all ants alike?

Ans. No. There are a great many kinds.

How are they distinguished from each other?

Ans. By their size, their color, and the manner in which they build their homes.

Where does the mason ant build her house?

Ans. On the ground.

What materials does she use?

Ans. Sand and clay, kneaded with rain water, as a mason kneads his mortar.

How does she build?

Ans. She makes long galleries, with pillars, and arches, and chambers, story upon story.

How many stories are there sometimes in an ant hill?

Ans. As many as thirty or forty.

With what do they cover the whole?

Ans. With a round thatched roof, made of dried leaves and grass.

How does the mining ant build her house?

Ans. She hollows out long galleries, and a great number of chambers, under ground, in the clay or turf.

What other trade is there among ants?

Ans. There is the carpenter ant.

Where do they build?

Ans. In living trees.

How are their nests made?

Ans. They have also galleries, which are parallel to each other, and separated by partitions about as thick as letter paper, with little chambers, which have small oval openings for doors.

Could man, with all his wisdom, build a house better suited for an ant than she builds herself? —

Could a mason ant build a nice house for a carpenter ant, or would a mining ant know how to build one for a mason ant? —

What does this teach us?

Ans. That for each one of us there is some work for which we are adapted; something which we can do better than anything else, and that we should try to find out what that is, and do it.

SECOND SUNDAY IN AUGUST.

THE ANT — (continued.)

What else did Solomon say about ants?

Ans.

"There are four things which are small upon the earth,
Yet are they wise, instructed in wisdom.
The ants are a people not strong,
Yet they prepare in the summer their food."

Prov. xxx. 24, 25.

Are all ants made to work?

Ans. No. In every nest there are three kinds of ants; the males, the females, and the neuters, which are workers.

How may they be distinguished from each other?

Ans. The males and females have wings; the workers have none.

Do the females always wear their wings?

Ans. No. When they are ready to begin to lay eggs, they unfasten their wings with their feet, and cast them aside as we do our old clothes.

What kind of ants are there the most of?

Ans. Nearly all are workers.

What else have the workers been called?

Ans. Nurse ants; also neuters and soldiers.

Why are they called workers?

Ans. Because they build the nests, and repair them if they are injured, and keep them clean, and do all the work of the family.

Why are they called nurse ants?

Ans. Because they take all the care of the eggs, and of the little ants.

Why are they called soldiers?

Ans. Because they guard their homes; and when the male and female ants are disposed to run away and found new homes, as they often do, they send out a company to bring them back and keep guard over them; and because they fight battles.

How do the ants' eggs look?

Ans. Very small, milk-white, and oval.

What is peculiar about these eggs?

Ans. They grow before they are hatched.

What do the nurse ants do with the eggs?

Ans. They carry them out of the nest every morning, into a warm place in the open air, and when the sun becomes too hot, they move them into the shade, and at night they carry them in again.

Do they carry them out on rainy days?

Ans. No. Instead of that, they carry them into the dryest chambers in the nest.

What else do they do for the eggs?

Ans. In very dry weather they keep them moist with their saliva.

What becomes of the eggs?

Ans. In about two weeks a little worm is hatched out of them.

What do the nurse ants do for these little worms?

Ans. They feed them, and carry them about as they did the eggs.

What becomes of the worms, or larvæ, as they are called?

Ans. They spin little cocoons for themselves, which look like grains of wheat, and are then called *pupa.*

What do the nurse ants do for the pupa?

Ans. When it is time for them to hatch, they gnaw an opening in the cocoon, because the young ants cannot get out without help.

What other good traits have we discovered in the ants beside their industry?

Ans. Kindness to and care for the young, and a disposition to assist each other.

May we not also learn of them in this respect? —

Have the ants any bad traits of character?

Ans. Yes. They are great fighters, and very cruel.

What do some kinds of ants do?

Ans. They steal the eggs and pupa of other ants, and carry them to their own nests; and when they are hatched they make slaves of them, and oblige them to do all the work of the dwelling; they make slaves also of their prisoners of war.

What is the principal food of ants?

Ans. Dead insects and animals, and all kinds of sweet food, particularly honey.

What do they prefer to anything else?

Ans. Honey dew.

Where do they find it?

Ans. On many plants, where it is deposited by little insects, called *aphides.*

What else are the aphides sometimes called?

Ans. The milch-cows of the ants.

Why?

Ans. Because when an ant is hungry, it goes up to one of these little creatures and caresses it, by stroking it with its feelers, till it induces it to give out two little drops of a sweet liquid, from two openings in its back. When the ant has eaten all that one aphis can give, it goes to another and gets more.

How have all these things been learned about the ant?

Ans. By long-continued and patient observation, and study.

Do ants store up food in summer and autumn for winter use?

Ans. They do to some extent, in warm climates, because the supply is more abundant in the warm season; but in cold countries they sleep through the winter, and do not require any food.

When we study about a little creature so wise and so wonderfully made as the ant, of what should we be led to think? —

What other lessons have been drawn from the study of the ant?

Ans. "That we should judge of people by their qualities and habits, and prefer industry, and application to business, and forethought, and wisdom, to size, or beauty, or strength; also that we should admire the wisdom and power of the Creator as much in the smallest and most despicable creatures, as in the largest and most beautiful."

THIRD SUNDAY IN AUGUST.

DEW.

When Isaac blessed his son Jacob, what were his words?

Ans. "God give thee of the dew of heaven, and of the fatness of the earth, and plenty of corn and wine." Gen. xxvii. 28.

What was the blessing wherewith Moses blessed Joseph?

Ans. "Blessed of the Lord be his land, for the precious things of heaven, for the dew, and for the deep that coucheth beneath, and for the precious fruits brought forth by the sun." Deut. xxxiii. 13, 14.

How long ago was that?

Ans. Thousands of years.

Is not the dew as precious now as it was then? —

Why are we so apt to undervalue God's good gifts to us?

Ans. Because we have never known what it was to need them.

What is oftentimes the result of our familiarity with blessings?

Ans. To make us forget the Giver.

What effect should it have upon us? —

What was the old idea about the dew?

Ans. That it fell from the moon, or the stars.

What has been learned about it in later times?

Ans. That it neither comes down from heaven, nor yet up out of the ground.

Where does it come from?

Ans. God forms it fresh every evening.

Of what does He make it?

Ans. Of the moisture that is in the air.

Why do we not see the moisture?

Ans. Because it is suspended, or diffused in the air.

How is this moisture formed into drops?

Ans. By the air coming in contact with bodies colder than itself.

Why does it have that effect?

Ans. Because heat always expands moisture, and cold condenses it.

Is the earth colder than the air?

Ans. It is colder at night, and warmer in the daytime.

Why is that?

Ans. In the day, the earth absorbs the sun's rays more readily than the air, and at night it parts with its heat more freely.

What part of the night is the most dew formed?

Ans. The latter part of the night.

Why is that?

Ans. Because the earth continues to grow cooler.

If you put your hand on different substances, do they all feel equally warm? —

Why do they not?

Ans. All bodies radiate heat, that is, give it out in rays; but some radiate much more freely than others, and of course become cooler.

Why is dew formed more abundantly on some things than on others?

Ans. Because the colder anything is, the more readily it will condense the vapor in the air.

What kind of things radiate heat most freely?

Ans. Grass, wood, the leaves of plants, and cultivated soils.

How are God's love and wisdom shown in this?

Ans. Those things which need moisture, and might perish without it, God has made to radiate heat freely.

Mention some substances which do not radiate heat, nor form dew freely.

Ans. Polished metals, rocks, gravel, and the hard, bare ground.

Do such things need moisture? —

What would be the consequence if polished metals formed dew as readily as grass does?

Ans. They could never be kept free from rust.

Are these not further proofs of God's wisdom? —

Is there more dew formed in hot or in cold countries?

Ans. In hot countries.

In which is the most needed, and why? —

Is there more dew in a cloudy or a clear night?

Ans. In a clear night.

Why is that?

Ans. Because when there are clouds they radiate heat, and they also send back the heat which the earth radiates.

Why is there but little dew on windy nights?

Ans. Because the wind absorbs and bears away the moisture.

What does dew become when it freezes?

Ans. Frost.

Why, then, is there frost on clear, cold nights, and none when it is cloudy? —

Why is evening dew injurious to health?

Ans. Besides the danger of taking cold from the dampness of clothing, the dew is always laden with noxious exhalations from the earth.

Why does the dew vanish when the sun has risen?

Ans. Because the air becomes warmer, and absorbs the vapor.

Describe a drop of dew. —

Is it not more beautiful and perfect than diamonds or pearls? —

Which is the most useful to us? —

Why are they valued more than the dew? —

What is the use of dew? —

How much dew forms in the course of a year?

Ans. More in some countries than in others. In England it has been estimated that if the dew which forms in one year could be gathered together, it would cover the country five inches deep with water.

Of what does dew take the place in dry seasons? —

If a drop of dew is evaporated, how large a volume of vapor will it produce?

Ans. Nearly two thousand times its own bulk.

Of what is dew an emblem?

Ans. Of purity.

What is noteworthy about the dew?

Ans. Its perfect silence. Though it blesses the whole earth, it gives no sound in doing so.

"The dew of heaven is like God's grace;
It steals in silence down;
But where it lights, the favored place
By richest fruits is known."

FOURTH SUNDAY IN AUGUST.

CLOUDS.

"Dost thou understand the balancing of the clouds,
The wondrous works of Him that is perfect in knowledge?"
Job xxxvii. 16.

What does this passage suggest to us?

Ans. How little we know of the clouds, and how wonderful are the works of Him who is perfect in knowledge.

What should come with this sense of our ignorance?

Ans. A desire to learn all which can be known of these wondrous works.

What are some of the questions which we ask ourselves about the clouds?

Ans. How are they formed? Of what do they consist? How are they balanced in the air? What gives them their forms and colors? What separates them from each other? "What hand has reined them back by the way by which they came?"

Can we answer all of these questions?

Ans. Only a few of them.

Why should we ask them then?

Ans. Such questionings raise our thoughts from the trifles which surround us into a higher region.

Of what are the clouds made?

Ans. "He bindeth up the waters in His thick clouds." Job xxvi. 8.

How are they formed?

Ans. Watery evaporations rise from the whole surface of land and sea into the air, till they meet with cooler air, which condenses them into clouds.

How are these evaporations disposed in the clouds?

Ans. In hollow bladders of vapor charged with electricity.

What is the effect of the electricity?

Ans. It prevents the bladders of vapor from melting into each other, and falling in the form of rain.

How far are clouds from the earth?

Ans. They occupy a belt in the atmosphere which reaches from one to five miles from the surface of the earth.

Are they confined within these limits?

Ans. The highest clouds are sometimes fifteen miles from the earth, and the lowest have been known to touch steeples, or the tops of high trees.

What is their form?

Ans. They have every variety of form; we never see any two precisely alike.

Is there any law or rule about their form?

Ans. There is, and it is God's law.

Why is it well to find out God's laws about things, and the way in which He works? —

Into how many distinct classes have clouds been divided?

Ans. Into three, which are called cirrus, cumulus, and rain clouds.

What distinguishes them from each other?

Ans. Each has its own region, in which it is formed, and its own specific character.

Which are the clouds nearest the earth?

Ans. The rain clouds.

What is their form?

Ans. They are usually arranged in horizontal bands.

What do they include?

Ans. Fogs and mists.

What are their colors?

Ans. They are usually soft and subdued colors, oftenest gray.

When do they form?

Ans. About sunset, and disperse in the morning.

What are the clouds called which are farthest from the earth?

Ans. Cirrus; the Latin word *cirrus* means a tuft of hair.

Of what are they composed?

Ans. Of the purest watery vapor, and of crystals of ice.

What do they resemble?

Ans. Carded wool or hair, or a crest of white feathers, or a brush or broom.

What is one of their characteristics?

Ans. Their arrangement into parallel bars, or bands, or fibres.

Name other peculiarities.

Ans. Their great variety, their constant changes, the beauty and richness of their coloring, and the sharpness and delicacy of their outlines.

When do we see the clouds in their brightest colors?

Ans. When the sun is just below the horizon, and they reflect his light from their under sides.

How long do these clouds last?

Ans. From a few moments to several hours.

Why are they purer than other clouds?

Ans. Because they are out of reach of all foul gases which rise from the earth's surface.

What is the name of the clouds in the central cloud region?

Ans. Cumulus, which means a pile or heap.

Why are they called by that name?

Ans. Because they often look as if they were heaped up on one another.

What do they sometimes resemble?

Ans. Mountains covered with snow.

How large are they?

Ans. Often as large as mountain ranges.

When are they formed?

Ans. They begin to form soon after sunrise, and break up before sunset, and on that account are called day clouds.

What is their color?

Ans. Usually white or gray.

Do all clouds belong to one or other of these classes?

Ans. Sometimes there are combinations of cirrus and cumulus, or of cumulus and rain clouds.

How large are the clouds?

Ans. Some are no larger than a man's hand, while others have been estimated to have as many as twenty square miles in surface, and over a mile of thickness.

What are the general characteristics of clouds?

Ans. Beauty, lightness, elasticity, diversity of form and coloring, grace of motion, constant change, yet conformity to laws.

Would all the uses of clouds have been answered without the beauty?

Ans. We see no reason why all material uses might not have been.

For what purpose may we suppose them to have been so beautifully and wonderfully formed?

Ans. To direct the mind to their Creator, and to give His children enjoyment.

Is not this source of pleasure free alike to all God's children? —

Who seem to have taken peculiar pleasure in the contemplation of the clouds?

Ans. Writers of the Scriptures.

What is said of the Lord in Ps. civ. 3?

Ans.

"He maketh the clouds His chariot,
He rideth upon the wings of the wind."

What is meant by this? —

Why is the Bible so full of figurative language?

Ans. It was almost universally used in the East in those early days.

How are the clouds constantly spoken of in the Bible?

Ans. As God's dwelling-place.

Where is this first alluded to?

Ans. In the account of the journeyings of the children of Israel, given in Exodus.

What is said in chapter xiii. 21, 22?

Ans. "And the Lord went before them by day in a pillar of cloud, to lead them the way; and by night in a pillar of fire, to give them light; to go by day and night; He took not away the pillar of cloud by day, nor the pillar of fire by night, from before the people."

What is said in chapter xvi. 10?

Ans. "Behold, the glory of the Lord appeared in the cloud."

How did God appear to Moses on Mount Sinai?

Ans. "And Moses went up into the mount, and a cloud covered the mount; and the glory of the Lord abode upon Mount Sinai, and the cloud covered it six days, and the seventh day He called unto Moses out of the midst of the cloud; and Moses went into the midst of the cloud." Ex. xxiv. 15, 16, 18.

What is said in Ex. xxxiv. 5?

Ans. "And the Lord descended in the cloud, and stood with him there."

What did Jesus prophesy of himself, Matt. xxiv. 30?

Ans. "They shall see the Son of man coming in the clouds of heaven, with power and great glory."

What was the end of Jesus' career upon the earth?

Ans. "While they beheld, he was taken up; and a cloud received him out of their sight." Acts i. 9.

FIFTH SUNDAY IN AUGUST.

See Appendix.

FIRST SUNDAY IN SEPTEMBER.

MOSSES AND LICHENS.

"Stánd still, and consider the wondrous works of God."
Job xxxvii. 14.

How do these words apply to the subject of our lesson for to-day?

Ans. Of all the wondrous works of the Creator, none are more truly wonderful than these curious plants, which are, in themselves, "a whole world of new wonders."

In what respects are they particularly worthy of our attention?

Ans. On account of their universal distribution over the earth, their uses to man and beast, their minuteness, the perfection of their parts, their beauty and grace, and the various lessons which they teach us.

Where are they found?

Ans. In every part of the habitable globe, from the equator to the poles, but more abundantly in the colder regions.

On what do they grow?

Ans. On roofs and fences, and on trunks of trees; on rocks and earth; on river-banks; in densest forests, and on loftiest mountain peaks; wherever there is moisture, there mosses and lichens will grow.

On what do they subsist?

Ans. On simplest fare, needing only air and water for their sustenance.

What is their principal work in the world?

Ans. To gather and preserve moisture when the air is damp, and to give it out again when it is needed by vegetable life about them.

If we seek for lessons from the little mosses, what may we learn from this fact? —

What other general use have they?

Ans. To prepare the way for higher forms of vegetable life.

How do they do this?

Ans. They retain the moisture of the dews and rains, and catch and hold prisoner the particles of dust which the winds blow over them, and thus, in time, create a soil which they keep moist, and in which the stray seeds which come to them take root and thrive.

How else do they enrich the earth?

Ans. They decompose the surface of the rocks which they cover, and crumble in pieces the mountains on which they grow; and this powdered mountain and rock, washed down into the valleys below, fertilizes and strengthens the soil.

How do these tiny plants destroy the solid rocks?

Ans. Their myriads of roots penetrate every little pore and crevice in the rocks, and there the water follows them; and there the frost, too, reaches; and, in one way and another, they decompose the rock, whatever it may be, whether granite, or hornblende, or quartz.

What have they been called?

Ans. "God's quartz-crushers," doing faithfully his work.

How does this washing down of the crumbled rock strengthen the soil?

Ans. The silex which these atoms contain is an essential ingredient in grasses, grains, and other vegetable forms, and is necessary to give them strength; and this they have the power of dissolving and secreting wherever they can obtain it.

What do we learn about the mosses which grow in swamps or marshy places?

Ans. Year by year, while the surface is still fresh, they die gradually below, and form large beds of peat, which furnish fuel for thousands of God's children.

Have they not other uses as valuable as this?

Ans. They furnish nourishing food and medicine to the sick.

Mention an instance of the latter use of them.

Ans. During Napoleon's wars, when there were so many sick and wounded, and quinine, which is found only in South America, was deemed indispensable, it was impossible to obtain it, because the whole continent was under embargo; and it was then discovered that certain lichens possessed the same properties, and they came into general use as a substitute.

How are they used as food?

Ans. In the polar regions, where vegetable food is rarely found, some species of lichens are soaked and cooked with milk, or dried and made into

bread. There is another kind, called "tripe of the rock," which was the sole food for months of Sir John Franklin and his companions; and even with us the Irish moss is esteemed an article of luxury.

Do these curious plants give food to man alone?

Ans. Oftentimes the lives of whole herds of reindeer are preserved by them.

How do they obtain them?

Ans. Smelling them through the ice and snow, they dig for them with horns and feet, and for a large part of the year live upon these small and simple plants.

Are these all of their uses?

Ans. Only a small part of them. Man uses them for brushes, door-mats, and beds, while the little humming-bird chooses them to cover her nest, and thus hides it from curious gaze. The dormouse and other small animals hide under its sheltering care, and thousands of insects make their homes in it, and live out their little lives there.

Mention still another use.

Ans. They furnish valuable dyes, and more than three thousand hundred weight are sent annually from the Canary Isles alone for that purpose.

Is it probable that we know all of their uses?

Ans. Judging from the number which are recent discoveries, it is not at all probable that we do.

What tender association have we all with them?

Ans. They attach themselves to decay and ruin, and cover them with beauty, and they cling to the graves and tombstones of those we love, and thus link themselves with their memories.

SECOND SUNDAY IN SEPTEMBER.

MOSSES AND LICHENS — (continued.)

"I meditate on all Thy works.
I muse on the works of Thy hands." *Ps.* cxliii. 5.

Why have we spoken indiscriminately of mosses and lichens?

Ans. Because so many of their characteristics are the same, that it is difficult to distinguish between them, and because they are so generally confounded.

What IS *the difference between them?*

Ans. Mosses have stems and leaves, while lichens have none.

How many varieties of them are known?

Ans. Eight hundred of the mosses, and twenty-five hundred of the lichens.

What can you say of their size?

Ans. It varies. The long gray mosses of the southern swamps hang "silent and solemn" from the branches of the tallest trees, and almost sweep the ground with their drapery; while others are of smaller growth and various sizes, and many are invisible to the naked eye, and were never seen by man till the microscope was invented.

Is it not just as likely that there are many others, all perfect in their parts, and yet too minute to be seen by the microscope? —

Have not these probably their uses too? —

Have the mosses blossoms and seed-vessels?

Ans. They have both, though the blossoms are generally too small to be seen by the unaided eye.

What is the usual shape of the seed-vessels?

Ans. A hollow ball, running up to a point, on which hangs a tiny and graceful cup.

What is the use of this cup?

Ans. To protect the ripening seeds; when it is no longer needed for that purpose, — that is, when the seeds are ripe, — it falls off, and the mouth of the little seed-ball opens, and the tiny seeds are scattered by the winds.

What are found in many kinds around the opening of the little seed-vessel?

Ans. Rows of sharp-pointed teeth, which doubtless have their work to do.

What is very wonderful about these little teeth?

Ans. Their astonishing regularity of numbers, there being always four, or an exact multiple of four.

What effect do drought and a scorching sun have upon the lichens and mosses?

Ans. It dries them so that they crumble at a touch, but it never kills them; when the dew or the rain returns, they are as fresh and bright as ever.

What other peculiarity can you mention?

Ans. While the strongest vessels of glass, or china, or metal, are broken in pieces by the pressure of a frozen liquid within them, the delicate moss-cups remain frozen through an entire winter, and are found uninjured in the spring, growing as merrily as before.

What are some of the lessons which we may learn from them?

Ans. 1. That to the least of God's creatures he has given noble uses to perform, and that we may never despise aught that He has made, or despair of doing some good because of our insignificance.

2. That God delights in beauty, both of form and coloring, and gives it to some of his smallest creations.

3. A lesson of modesty, and humility, and trust.

4. To pity and cover the faults and weaknesses of others, even as the moss and lichen cover the crumbling rock or the decaying wood.

What lesson did they teach to Mungo Park, the African traveller?

Ans. "If God so feedeth and careth for the little moss, He will not surely forget thee." He had lain down to die in the wilderness, overcome with disappointment and weariness, and the sight of a tiny moss, growing fresh and green by his side, filled his heart with new faith and new hopes.

Are mosses mentioned in the Bible?

Ans. Not by name. They attract but little attention amid the magnitude and luxuriance of growth in those sunny climes; but Solomon is said to have spoken "of all the trees, from the cedar tree that is in Lebanon, even unto the hyssop that springeth out of the wall." 1 Kings iv. 33.

What is this hyssop supposed to be?

Ans. Some writers suppose it to be a species of moss very common on the walls of Jerusalem; others think that it is a kind of mint found there.

THIRD SUNDAY IN SEPTEMBER.

LITTLE THINGS.

"For who hath despised the day of small things?" *Zech.* iv. 10.

Why is a false estimate so often made of the value of things?

Ans. Because, with natural objects, we only consider their size, and because with all things we cannot see, or we forget to consider, their results.

Mention some of the little things in nature.

Ans. Seeds of plants, grains of sand, animalcula, motes of dust, pollen of plants, &c.

How do some of these acquire importance?

Ans. By their capacity for growth.

Mention an example.

Ans. Seeds, in which are the germs of all plants, and of the largest trees.

Consider an acorn, how small it is; yet what may come from it?

Ans. A stately tree which shall endure for centuries perhaps, a house and haunt for many birds and insects, a shelter for man and beast. By and by it may be cut down and converted into fuel for warming many people, and into timber for building ships to carry men and merchandise, and, it may be, plenty to a famishing people, or war to a peaceful nation.

Of what small seed did Jesus speak?

Ans. The mustard seed, to which he likened the kingdom of heaven.

What did he say of its growth?

Ans. "When it is grown, it is the greatest among herbs, and becometh a tree, so that the birds of the air come and lodge in the branches thereof." Matt. xiii. 32.

What must we remember in connection with this?

Ans. The larger growth of plants in the East than with us.

In what other way beside growth can little things acquire importance?

Ans. By their combined action.

Mention instances of this.

Ans. Drops of water, grains of sand, rays of light, flakes of snow, swarms of insects, the hairs of our heads, &c.

Is there not still another way in which little things become important?

Ans. By constant repetition; as the continual dropping which weareth away a stone.

Mention some little things which become important by the effect which they produce.

Ans. A mosquito, a flea, or a gnat, are all small things, yet all have the power of destroying our peace, and sometimes our temper.

What can you say of a single drop of poison?

Ans. It may destroy life; so may the prick of a pin.

What was done by a little fire-cracker, carelessly thrown?

Ans. A great city was set fire to, and thousands of people left houseless and homeless.

What can you say of the coral insects?

Ans. Working under water, and extracting from it the minute particles of lime, they build up reefs, on which sometimes navies are stranded; or oftener, perhaps, stray seeds are caught, vegetation springs up, and fertile islands are formed.

How do mosses and lichens illustrate the same thing?

Ans. They work slowly and steadily on the mountains and rocks, and crumble them in pieces; nor do their effects stop here, for this crumbled rock washes down into the valleys, and gives strength to thousands of hungry plants.

What can you say of the ship-worm?

Ans. It is a little worm, but numbers of them work noiselessly side by side, and all at once a great ship is wrecked, and it is found that a worm has done it by so weakening some part of its covering that the water has forced a way in.

What can you say of the locust?

Ans. It is a small insect, but thousands of millions of them fly together, making a noise like rain, darkening the sky, covering whole miles in extent, and eating up every green thing.

What do other insects do?

Ans. They undermine the crevasses on the banks of great rivers, and cities and villages are overflowed.

What has Solomon spoken of in the song which he has written?

Ans. Of the little foxes which spoil the vines.

Mention some little creatures that are friends of man.

Ans. The earth-worm that we trample under our feet is one of the greatest benefactors of the husbandman, loosening the hardest and most unprofitable soil, and making it rich and fertile.

Is this the only worm to which man is indebted?

Ans. The silk-worm spins its thread, and the inhabitants of the earth are clothed in soft garments, and a tiny insect, called the cochineal, yields a brilliant dye for it.

Does any little insect help to feed him?

Ans. Yes. The bee gives him its rich store of honey.

What can you say of the number and variety of little things?

Ans. The microscope reveals to man more insects and animals than he sees with the naked eye, and uncounted numbers of tiny plants. In all of these, the same wonderful power and wisdom, and harmony of purpose, are displayed, as in the creation of man, or of the heavenly bodies.

What does a single drop of stagnant water often contain?

Ans. Millions of minute insects of various forms.

Of what is flint made?

Ans. Of the shelly coverings of minute insects, invisible to the naked eye.

FOURTH SUNDAY IN SEPTEMBER.

LITTLE THINGS — (continued.)

What little things are spoken of in Prov. XXX. 24–28?

Ans.

"There are four things which are small upon the earth,
Yet are they wise, instructed in wisdom.
The ants are a people not strong,
Yet they prepare in the summer their food.
The conies are a feeble people,
Yet do they make their houses in the rocks.
The locusts have no king,
Yet do they all go forth in bands.
The lizard seizeth with its hand,
And is in king's palaces."

What is the lesson which we may learn from these examples?

Ans. That we are not to judge of things, or of people, by their size or personal appearance, but rather by the results which they produce, or the works which they do, or the wisdom which they display.

These which we have spoken of are all material things, which may be seen by the eye, or felt by the touch. What other little things are there?

Ans. Events trifling in themselves, but leading to great results.

Mention instances.

Ans. The accidental burning of sea-weed on sand led to the discovery of glass; by the accidental mixing of nitre and potash, gunpowder was discovered.

Mention an incident in the life of Columbus.

Ans. A piece of broken drift-wood floating on the ocean convinced Columbus and his disaffected crew that land was near, and gave them fresh courage to go on when they would otherwise have turned back.

What did the small moss do for Mungo Park?

Ans. It revived his courage and saved his life.

To what has the notice of trifling events often led?

Ans. To the most important discoveries.

Give examples.

Ans. Newton noticed the falling of an apple, and was not satisfied till he had found the cause of it, and the discovery of the law of gravitation was the result. A little steam, escaping from a kettle, led to the invention of the steam-engine. The swinging of a lamp revealed to Galileo the law of the pendulum.

How is the sailor enabled to direct his course across the trackless ocean where no path is?

Ans. A very little thing, called the magnetic needle, points out to him the way.

Of events, can we ever calculate what their results will be, or where they will end? —

Is a habit a little thing, whether it be good or bad? —

Is a word a little thing? —

Why is it not? —

Mention instances of the power of words. —

To what did the wisest man liken a word fitly spoken?

Ans. "To apples of gold in pictures of silver." Prov. xxv. 11.

To what is this expression supposed to refer?

Ans. To a rich garment on which were embroidered apples of gold in pictures (or figures) of silver.

To what may words of bitterness, or malice, or envy lead? —

What lesson may we learn from all these things?

Ans. Never to despise or overlook anything simply because it is small.

Can you mention an instance given in the Scriptures where this was done?

Ans. When Naaman the Syrian went to the prophet to be cured of leprosy, the prophet told him to go and wash in Jordan seven times, and he should be healed. Then Naaman was wroth, and went away in a rage; and his servants came to him and said, "If the prophet had bid thee do some great thing, wouldst thou not have done it?"

Did Naaman afterwards obey the prophet? and what was the result?

Ans. He obeyed, and was healed. 2 Kings v. 14.

Do not little things teach us still other lessons?

Ans. The lichens teach perseverance, humility, and cheerfulness. Drops of water and grains of

sand remind us of the power of combined action. The discoveries which have been made in this way tell us that nothing should be overlooked or despised; and all teach that God careth for the little things which He hath made, and giveth them beauty and honor.

When God would teach His prophet Elijah, how did He come to him?

Ans. In a still small voice.

Did Elijah hearken to this?

Ans. He did.

What may we learn from this? —

FIFTH SUNDAY IN SEPTEMBER.

See Appendix.

FIRST SUNDAY IN OCTOBER.

SEEDS.

In the beginning, after God had gathered the waters together into seas, so that the dry land appeared, what did He cause the earth to bring forth?

Ans. God said, "Let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself upon the earth; and it was so: the earth brought forth grass, and herb yielding seed after his kind, and the tree yielding fruit, whose seed was in itself, after his kind; and God saw that it was good." Gen. i. 11, 12.

Why did the Creator give to every plant and tree its own seed after its kind?

Ans. That the plants which He had made should never die out from the earth, but when they perished, or were destroyed, others, of the same kind, should take their places.

Is there not infinite love and wisdom in this provision of the Creator for the well-being of all His children, with whom He should ever people the earth? —

Have all plants seeds?

Ans. Yes, even to the very tiniest.

What is the beginning of every plant?

Ans. A seed.

What is the last thing that is perfected in a plant?

Ans. The seed.

What is the seed which a plant produces exactly like?

Ans. Like that from which it sprung.

What, then, is the seed of every tree and plant?

Ans. A link between the old plant and the new.

What more is it?

Ans. A truly wonderful thing.

Could anything less than infinite wisdom and power have produced it? —

How can we best comprehend the wisdom of the Creator in this arrangement?

Ans. By learning all that we can about the growth and perfecting of seeds.

What is the beginning of every seed?

Ans. A little soft, round particle, called an ovule, in the very heart of the flower.

Is it enclosed in anything?

Ans. Yes, in a little case called a germ.

What may we always notice in our studies about seeds?

Ans. The tender care which the Creator takes of them, that they may not be destroyed.

How many ovules are there in one germ?

Ans. In some plants one, in some two, and from that to many thousands.

What is necessary in order to give life to this little ovule?

Ans. That some of the pollen of the same sort of plant should come in contact with it; the touch of that gives it life.

What is pollen?

Ans. The fine dust which is found in nearly all flowers.

What is its color?

Ans. Usually yellow or brown, but sometimes red, or blue, or white.

Mention examples of some of these. —

Does the pollen always grow in the same flower with the ovules?

Ans. No; and sometimes not even on the same plant, but on another plant of the same kind.

How, then, does it find the seeds?

Ans. Winds waft it, and insects carry it, from plant to plant, and from flower to flower.

How do insects carry it?

Ans. Going into flowers for their juices, they become powdered with it; then going into other flowers, where the seed is, they bring it in contact with the seeds.

What are these little insects, then?

Ans. God's servants, doing His work joyfully and well.

In our common corn, how does the pollen find the young seeds?

Ans. The seeds grow very low down on the stalk, and are folded up in three or four green leaves, open at the top; the pollen grows in flowers at the top of the plant, and when the wind shakes the blossom, the pollen drops into the open leaves, and falls down upon the seeds.

What helps to catch the pollen and carry it to the ovules?

Ans. The silk of the corn, which seems to have

been made for that purpose, and is a part of the seed blossom.

After the pollen of plants has touched the young seeds, what takes place?

Ans. They begin to grow and ripen.

SECOND SUNDAY IN OCTOBER.

SEEDS — (continued.)

Are all seeds alike? —

How do they differ?

Ans. In size, form, color, taste, smell, and uses.

Mention the largest seeds that you can think of. —

Mention the smallest. —

Are there any smaller than these?

Ans. A countless number and variety, which the eye cannot see without the aid of a microscope.

In what respects are all seeds alike?

Ans. They all consist of three parts, the eye, the husk, and the kernel.

What is the eye?

Ans. The little scar or spot on one side of the seed, which we see so plainly in a bean.

What causes this?

Ans. The seeds, until they are ripe, are attached to the seed case by a little membrane, through which they receive nourishment; when the seed ripens, this drops off and leaves a scar; that is the eye.

What is the husk?

Ans. The covering which encloses the seed.

What is the kernel?

Ans. That which is enclosed; it is usually white.

Into how many parts is the kernel divided?

Ans. Into three.

What is the first of these?

Ans. The embryo, which is the most important part.

Why?

Ans. Because it is the part which is the seed of life, and will by and by grow.

What comes next?

Ans. A little lobe, or lobes, which enclose the embryo, and nourish it.

In what plant have we all seen these lobes?

Ans. In the bean, when it first comes out of the ground.

What else is there in the kernel?

Ans. The albumen, which encloses the other parts, as the white of an egg encloses the yolk.

Is the embryo composed of more than one part?

Ans. Yes, there are two parts, the root and the young plant.

What did the Psalmist exclaim in view of God's wonderful works?

Ans.

"I will praise Thee, O Lord, with my whole heart!
I will show forth all Thy marvellous works.
I will be glad and rejoice in Thee." Ps. ix. 1, 2.

Are the Creator's works less wonderful now to us than they were then to him, or less a proof of God's wisdom?—

Do seeds begin to grow, and form new plants, as soon as they are ripe?

Ans. Not often.

How soon do they sometimes begin to grow?

Ans. Some seeds, if placed in very favorable circumstances, will begin to grow in a few hours.

How long have they been known to remain inactive, and still live?

Ans. Thousands of years.

Mention instances.

Ans. Grains of wheat, taken from mummies embalmed thousands of years ago, have been known to grow; and seeds buried in Pompeii eighteen hundred years ago.

What is necessary to the germination of seeds?

Ans. Air and warmth.

What else are favorable to it?

Ans. Moisture and darkness.

Which of these do seeds have when planted in the ground? —

Is the fitness of the place in which seeds are to be planted accidental? —

Of what is it a proof? —

When a seed begins to grow, how much power lies in it?

Ans. The pressure of some seeds, germinating, will lift a weight which a man cannot stir; all have more or less force.

When the seed begins to grow, what part stirs first?

Ans. The root pushes out of the seed, and finds its way down into the ground, if the seed is planted there.

Why does the root grow first?

Ans. That it may keep the young plant firm in its place, and help to nourish it.

Does there not always seem to be a good reason for everything which God does?—

After the root has started, what takes place next?

Ans. The young plant grows up into the air and light.

Why is that?

Ans. Because it must have air and light.

Do the roots always grow down, and the plants up?

Ans. Yes, even if they come out of the seed in the opposite direction. In that case they bend and go the other way, often crossing each other.

How do we see the wisdom of this arrangement?

Ans. If it were not so, only those seeds would live and take root, which were placed so that the root would naturally grow down and the plant upwards; and as no one could know how to do that, there would be no certainty, in planting seeds, that they would ever come up.

What is necessary in order to diffuse plants generally over the earth?

Ans. That some arrangement should be made for scattering the seeds.

Do we see that any such arrangement has been made?

Ans. Yes, there are many such.

What are they?

Ans. Many seed vessels, particularly of the smallest plants, burst open with such force, when the seeds are ripe, as to scatter them far and wide; others are carried by winds and waters, by birds, beasts, and insects.

What kinds are carried by the winds?

Ans. Those that have down, like dandelions and thistles; or wings, like the maple and linden, and ash and pine, or the feathery clematis.

Which seeds do the waters carry?

Ans. Nuts which are enclosed in a shell, and will float.

Which do beasts and birds carry?

Ans. Those which they feed upon; and sometimes small seeds which fasten to the wool of sheep or goats, or to the hair of other animals, as the ox and the bison.

Can you mention some curious facts with regard to these two methods of distributing seeds?

Ans. Gardeners in Sicily are in the habit of shooting migratory birds, as they journey north in the spring, and then sowing the contents of their stomachs, for the purpose of getting new flowers for their gardens, brought from more southern climes. Also Asiatic plants have been imported in camels' hair, and South American plants in the hides of oxen and buffaloes, and Russian plants in furs.

Is there more seed than is necessary to plant the earth?

Ans. A good many times more.

Why is this?

Ans. In part to guard against every possible accident, so that in no way may the kind become extinct.

Are there other uses for these spare seeds?

Ans. Yes. Many of them furnish food for men,

and beasts, and birds; so many, that that seems to have been one purpose of their creation.

For what other purposes have seeds been used?

Ans. Some as medicines, some as spices, and from many oils are extracted which are used in the arts.

Is it probable that all their uses have been discovered?

THIRD SUNDAY IN OCTOBER.

FRAGMENTS.

"Gather up the fragments that remain, that nothing be lost."
John vi. 12.

By whom were these words spoken, and on what occasion?

Ans. When Jesus had fed five thousand people with five barley loaves and two small fishes, he said to his disciples, "Gather up the fragments that remain, that nothing be lost."

With what purpose did he probably do this?

Ans. To teach them in such a way as they should never forget, that nothing should ever be wasted.

How else does this lesson come to us?

Ans. God teaches it constantly, by showing us how everything which He has made can be used over and over again.

Will you mention an instance of this?

Ans. Into the sea are washed constantly, from all the countries of the earth, waste substances, apparently lost forever; salt, lime, magnesia, potash, oxide of iron, and iodine. Of these the shell-fish construct their coverings, and the coral insects build reefs, and islands, and peninsulas; while "the little sea-weeds, with their millions of open mouths," suck in tons upon tons of them for their food, which they in their turn yield up to the service of man.

Mention another instance.

Ans. The leaves of summer, when they have accomplished their work for the season, fall lifeless to the ground; but there they decay, and enrich the earth, and make it yield still more abundant harvests. So, too, the very dirt which we trample under our feet has in it the elements of growth and beauty; and all these teach the lesson that nothing should be lost.

Has man fully learned this lesson?

Ans. Not yet; but from year to year he makes some progress in it, finding uses for that which had been deemed mere waste.

What are some of these uses which man has learned?

Ans. For ages, the tangled masses of sea-weed, strewn upon the beach, have been looked upon as useless rubbish; but now, by means of various processes, numerous valuable substances are extracted from them.

What are some of these?

Ans. In a single year, five thousand tons of potash, and two thousand of soda, were introduced into the English market, through the burning of sea-weeds upon the coasts of Scotland and Ireland alone.

What other important substance is obtained almost exclusively from this source?

Ans. Iodine, a substance of almost inestimable value in medicine and the arts.

Of what beautiful art does it form the basis?

Ans. Of the photographic art.

What has been said of the waste sea-weeds?

Ans. "They shall be a type of the uncounted riches lying hid in all creatures of God."

What do workmen in gold, and silver, and diamonds do?

Ans. They gather up every particle of dust, and hoard it for future use.

Is the dust of more common substances ever worth saving?

Ans. When the stone workman has wrought his best pieces of granite into monuments for the dead, or pillars and fronts of buildings, then a score of uses is found for the rougher pieces; while the broken stone chips are converted into roads, and the very dust is spread upon the ground to strengthen the soil, so that nothing is lost.

What is done with the skins of dead animals?

Ans. We wear the best parts of them upon our feet; but the waste pieces are boiled, and the fat which rises is converted into candles or soap. From this process glycerine also is obtained. Then the water in which they have been boiled is evaporated, and gelatine is the result; this is not only used for adhesive purposes, but is converted into wrappings for sweetmeats, and made into artificial flowers. When more thoroughly purified, it comes to our tables, or into sick rooms, an article of food and luxury.

What is done with the bones of animals?

Ans. Buttons, and combs, and handles of knives are made of them. Then the dust and waste pieces are collected and boiled, and the fat which

rises is made into soap and candles. The water in which they are boiled hardens into gelatine, and is used for glue or isinglass; and the waste pieces, after having been boiled, are burned in a closed furnace, and produce animal charcoal, which is used in immense quantities for filtering water, and refining sugar, and healing diseases.

What can be said of the discoverers of these uses?

Ans. That they were benefactors of mankind; men fulfilling the command, "Gather up the fragments, that nothing be lost."

When a distinguished chemist was asked how he had made his great discoveries, what did he reply?

Ans. "By examining that which other chemists threw away."

To what has the decay of the great empires of antiquity been ascribed?

Ans. To the fact that they neglected to apply the refuse of the cities to the soil, but poured it into their sewers and their rivers. In this way the soil became exhausted, the crops failed, the supply of food was cut off, and the cities depopulated; and all because they neglected the command to "gather up the fragments."

FOURTH SUNDAY IN OCTOBER.

FRAGMENTS — (continued.)

"And they took up twelve baskets full of the fragments."
Matt. xiv. 20. *Mark* vi. 43.

To whom does this refer?

Ans. To the chosen disciples of our Lord.

What lesson are we taught by this example of the disciples?

Ans. To see that nothing be wasted.

In what other way is this same lesson taught us?

Ans. By God's manner of working in His universe, and by the express command of our Lord.

To what shall we apply this command?

Ans. To everything which God has given us, for our bodies or for our souls.

Why should we save the fragments of food?

Ans. Because many destitute ones might be glad of them, or they might at least feed a hungry bird or animal; and because also of the command and the example.

Why should we gather up the fragments of wealth?

Ans. Because a penny even, wasted or misspent, is lost, or worse than lost; but the practice of saving the smallest sums will prevent the poorest from coming to poverty, and enable the rich to give freely to the poor, and to the needy.

Is there anything small or mean in saving little things?

Ans. God does it, Christ commands it, the disciples practised it. The meanness, when it exists, is not in the act, but in the motive which induces it.

Of what else should we gather up the fragments?

Ans. Of time; every moment is given for some precious use, for our own or others' good.

What did the poet Young say about this?

Ans.

"Youth is not rich in time; it may be poor;
Part with it sparing, as with money.
Pay no moment but in purchase of its worth."

How may the odd moments of time be made available?

Ans. By an earnest desire for self-improvement, or a resolute purpose to aid others.

How has it been done?

Ans. Sermons and letters, and books even, have been composed and written in cars, or steamboats, or on horseback; and thousands have been read and studied in the same way.

Of what else shall we gather up all the scraps which come in our way?

Ans. Of learning; a single fact a day would make a man acquainted with a new language, or a new science, in the course of a year.

What other reason is there for this?

Ans. Only a small portion of mankind can devote their days to study; but he who gathers all the scraps of knowledge and wisdom which come in his way, will be in time great and wise.

What other precious fragments may we gather?

Ans. All the stray tokens of good will; the little kindnesses which men do us, garnered in our thoughts and memories, will gladden and enrich our lives like the precious sunshine, and make our hearts go out in gratitude and love to those about us.

FIFTH SUNDAY IN OCTOBER.

See Appendix.

FIRST SUNDAY IN NOVEMBER.

LEAVEN.

"The kingdom of heaven is like unto leaven, which a woman took and hid in three measures of meal, till the whole was leavened."
Matt. xiii. 33.

What two things must we inquire about, if we would fully understand this teaching of our Lord?

Ans. The nature of leaven, and what is meant by the kingdom of heaven.

What is the only thing generally known about leaven, or yeast?

Ans. The result which it produces.

Who have interested themselves about its nature?

Ans. Naturalists and chemists.

What have they discovered?

Ans. That it is a vegetable substance, composed of simple globules or cells, sometimes round, sometimes elliptical in form.

How large are these?

Ans. From $\frac{1}{7000}$ to $\frac{1}{3000}$ of an inch in diameter.

Can you conceive of anything much smaller? —

How is it necessary to study them?

Ans. By aid of a microscope.

What do these cells contain?

Ans. A fluid composed of carbon, hydrogen, nitrogen, oxygen, phosphorus, and sulphur.

How do they increase?

Ans. As soon as fermentation begins, they move

about in all directions, enlarge, and become covered with projections, which finally drop off, and repeat the same operation.

Do they arrange themselves in any regular form?

Ans. Generally in rows, or as stalks with branches, appearing like branched plants.

Is this anything more than an accidental arrangement?

Ans. Writers on the subject differ in their opinion.

How is the vitality of yeast proved?

Ans. By its reproductive power; by the effect upon it of heat and cold, and of various poisons, and also of mechanical injuries.

What is known of the last?

Ans. Foreign yeast is imported in bags, and of these great care is requisite, as a fall to the ground, a violent blow or a bruise, will destroy the vitality of the yeast.

What are the effects of heat and cold?

Ans. Boiling destroys its life; cold renders it torpid while exposed to its action.

Have all these things been long known?

Ans. Many of them are recent discoveries.

To what property of leaven did our Lord refer in his parable?

Ans. To its power of communicating its own vitality to the substance with which it is mixed.

What is our next inquiry?

Ans. How can the kingdom of heaven do this?

If, by the "kingdom of heaven," Jesus had

meant the abode of departed spirits, could this have been said of it? —

What other term is often used instead of the kingdom of heaven?

Ans. The kingdom of God.

Who alone of the sacred writers uses the term kingdom of heaven?

Ans. Matthew.

How does Luke repeat the same saying?

Ans. "Whereunto shall I liken the kingdom of God? It is like leaven, which a woman took and hid in three measures of meal, till the whole was leavened." Luke xiii. 20, 21.

What did Jesus reply to the Pharisees, when they asked of him when the kingdom of God should come?

Ans. "Behold, the kingdom of God is within you." Luke xvii. 21.

What did Paul write to the Romans about the kingdom of God?

Ans. "The kingdom of God is not meat and drink, but righteousness, and peace, and joy in the Holy Ghost." Rom. xiv. 17.

How is this kingdom of God, in the heart, like leaven? —

As certain circumstances are favorable and necessary to the working of leaven, is it not so with the kingdom of God in the heart? —

Who imparts the first germ of righteousness?

Ans. "Every good and every perfect gift is from above, and cometh down from the Father of lights." James i. 17.

Does not God always surround his children with favorable circumstances, sufficient to develop this germ, if it is cared for? —

What are some of these circumstances?

Ans. All occasions for joy or gratitude, all opportunities for right doing, may be classed among them.

Are the favorable circumstances in any degree dependent upon ourselves? —

Upon whom will the responsibility rest? —

What is the result of the leaven of righteousness on the life and character?

Ans. Purity of heart, and uprightness of purpose, kindness, gentleness, meekness, and love.

What other results will there be?

Ans. Joy and peace.

Do these come all at once? —

But if the true leaven is hid in the soul, what is the certain result?

Ans. "A little leaven shall leaven the whole lump."

Who has asserted this?

Ans. Paul, in his letters to the Corinthians and the Galatians.

Of what other leaven did Jesus speak?

Ans. He said to his disciples, "First of all, beware of the leaven of the Pharisees, which is hypocrisy," Luke xii. 1.

Does this leaven still exist in the world? —

Is there still the same need to beware of it? —

Against what other leaven did Paul caution the Corinthians?

Ans. "The leaven of malice and wickedness." 1 Cor. v. 8.

Have not all sinful passions the quality of leaven? —

Where do they work?

Ans. In the heart, where they are first felt, and in the world.

For what is this a very strong reason?

Ans. For guarding against the very first beginning of evil passions or desires.

SECOND SUNDAY IN NOVEMBER.

THE HUMAN BODY.

"The body is one, and hath many members, and all the members of that one body, being members, are one body." 1 *Cor.* xii. 13.

What does David say of himself, Ps. cxxxix. 14?

Ans. "I will praise Thee, for I am fearfully and wonderfully made."

With what aim shall we consider our bodily frame?

Ans. That we may learn how to preserve it, and that we, too, may be led to praise the Creator, and to extol His name.

What was the last work of creation, as recorded in Gen. i. 26?

Ans. "So God created man in His own image, in the image of God created He him."

What did God say of this work?

Ans. "That it was very good."

What is the first thing noticeable in considering the human body?

Ans. The number and variety of parts of which it is composed.

What further?

Ans. The wonderful adaptation of those parts to the purposes for which they are designed.

And what else?

Ans. The manner in which they coöperate and aid each other.

What is one of the first purposes of man's organization?

Ans. To make use of the elements on which he exists, air and water, food, light, and heat.

What is the foundation of the structure of the body?

Ans. The bones.

What is the first purpose of these?

Ans. They are the framework of the body, to which the muscles are attached.

What other use have they?

Ans. To protect the soft and delicate organs from injury.

Why are there necessarily so many small bones?

Ans. To give an opportunity for motion.

What else is necessary for the same purpose?

Ans. That the bones should be connected by joints.

Do the bones produce motion?

Ans. No. The muscles communicate all motion to the bones.

How many bones are there in the human body?

Ans. Two hundred and forty-six.

Of these, how many are in the head, including the teeth?

Ans. Sixty.

How many in the legs and feet?

Ans. Sixty-two.

How many in the arms and hands?

Ans. Sixty-four.

How do the bones differ from each other?

Ans. In shape and size.

What can you say of the bones of the limbs?

Ans. They are hollow cylinders, because strength and lightness are required of them.

What of the bones of the trunk and the head?

Ans. They are flattened and arched.

Why is this?

Ans. Because they are required to protect cavities and vital organs, and to give a large surface for the attachment of muscles.

What purposes do other bones serve?

Ans. Some act as levers, and others as pulleys, for the passage of tendons.

Of how many small bones is the backbone composed?

Ans. Of twenty-four.

Why are these small bones hollow?

Ans. To allow of the passage of the spinal cord, and to protect it from all injury.

Why is this so important?

Ans. Because the spinal cord is a vital part of the system, and very delicate in its structure.

Why is there a series of small bones (the ribs) to enclose the lungs?

Ans. In order to allow the lungs to contract and expand.

To what are the bones essential?

Ans. To the uprightness, the motion, the power, and the beauty of the whole body.

What do we notice next to the bones?

Ans. The ligaments.

What are they?

Ans. Tough cords, which bind the bones together, and hold them in their places.

What are tendons?

Ans. Cords which attach the muscles to the bones.

What are muscles?

Ans. Fleshy fibres, bound together by a soft, shining tissue, and forming the flesh.

How are they arranged?

Ans. In pairs.

To what purpose?

Ans. That when one muscle has moved a part of the body, its companion may bring it back into place.

What other purpose do they serve?

Ans. To cover and protect the framework.

To what are they necessary?

Ans. To the comeliness of the figure.

How many have been noted in the body?

Ans. Two hundred and forty-six.

What are their color and form?

Ans. They are red in color, and present a great variety of forms, wisely adapted to their several uses.

How are the muscles moved?

Ans. They are excited to action by the nerves.

What are the nerves?

Ans. Small cords running from the brain and spinal cord to all of the sensitive and active parts of the body.

What is their office?

Ans. They are servants and messengers of the brain.

How many classes of nerves are there?

Ans. Four; nerves of motion, of sensation, of sense, and of sympathy.

What are the nerves of motion?

Ans. Those servants of the brain which stimulate the muscles to act.

What are the nerves of sensation?

Ans. Those which inform the brain just how far its commands have been obeyed.

What are nerves of sense?

Ans. Those by which we hear, see, feel, smell, and taste.

What are nerves of sympathy?

Ans. Those which regulate the motion of the heart, lungs, stomach, the organs of secretion, &c., so that these shall all work in harmony.

Is man capable of regulating all these various operations for himself? —

By whom are they regulated?

Ans. By Him who planned every part, and adapted it to its particular use.

THIRD SUNDAY IN NOVEMBER.

THE HUMAN BODY — (continued.)

What is the source of the life of the body?

Ans. "For the life of the flesh is in the blood. . . . For it is the life of all flesh; the blood of it is for the life thereof." Lev. xvii. 11, 14.

What is essential to life?

Ans. The circulation of the blood.

What organ keeps up this circulation?

Ans. The heart.

What is the heart?

Ans. A hollow, muscular organ, which is never idle.

Is it under the direction of a person's will?

Ans. It is not.

Why is this?

Ans. Because it must work at all times, whether we be fresh or weary, sick or well, awake or asleep.

What is the structure of the heart?

Ans. It consists of four chambers; two upper ones, separated from two under ones by valves.

What is the process of circulation?

Ans. The blood, after being formed from the food, in its passage through the system passes into the upper right chamber, thence into the chamber beneath it, from which it is forced into the lungs for the purpose of obtaining a fresh supply of oxygen from the air. After this is accomplished, it

returns into the left upper chamber, is pressed into the lower chamber, and from that is sent out into the arteries.

What are the arteries?

Ans. Tubes which convey the healthy blood into every part of the system.

From what do they all proceed?

Ans. From a single trunk, called the *aorta*, and they are given off from this like branches.

In what do they all terminate?

Ans. In an innumerable number of very minute vessels.

With what do these vessels connect besides the arteries?

Ans. With another set of tubes, called *veins.*

What are the uses of the veins?

Ans. To return the blood to the upper right chamber of the heart.

What difference is there between the arteries and the veins?

Ans. The arteries are smaller and stronger than the veins, and more securely protected, being mostly under the muscles, while the veins are near the skin.

Why is this?

Ans. Because an injury to them would be more dangerous than one to the veins.

What other difference can you mention?

Ans. The arteries branch out from a trunk, like the branches of a tree, while the veins unite like the little streams which form a river, and become larger and larger as they approach the heart to pour the blood into it.

What is essential to the life of the blood?

Ans. A constant supply of fresh air.

Which organs were provided to secure a fresh supply to the body?

Ans. The lungs.

Of what are these composed?

Ans. Of a collection of little cells, in which the air tubes terminate.

How do they operate?

Ans. They expand, and the pure air rushes in; they contract, and the air, having been deprived of its oxygen, and so rendered unfit to breathe, is pressed out.

From what parts of the body do we derive our principal enjoyment?

Ans. From the organs of sense.

Which are the senses?

Ans. Sight, hearing, taste, smell, and touch.

What can you say of each of these?

Ans. That they are fearfully and wonderfully made.

Which is the organ of taste?

Ans. The tongue.

What other purpose does this organ serve?

Ans. It is used in taking the food, and it is also the organ of speech.

Why is this a more important member than any other in the body?

Ans. Because "death and life are in the power of the tongue." Prov. xviii. 21.

For what opposite purposes is it used?

Ans. "Therewith bless we God, even the Fa-

ther; and therewith curse we men, who are made after the similitude of God." James iii. 9.

Why should we fear the tongue?

Ans. Because "the tongue is a fire, a world of iniquity; so is the tongue among our members, that it defileth the whole body." James iii. 6.

Can it be tamed?

Ans. "For any kind of beasts, and of birds, and of serpents, and of things in the sea, is tamed and hath been tamed of mankind; but the tongue can no man tame; it is an unruly evil, full of deadly poison." James iii. 7, 8.

What is our duty in regard to the tongue?

Ans. "If any man among you seem to be religious, and bridleth not his tongue, that man's religion is vain." James i. 20.

How is this to be done?

Ans.

"Guard well thy tongue from evil,
And thy lips from speaking guile." Ps. xxxv. 13.

What does Solomon say of the tongue of the just?

Ans. "The tongue of the just is as choice silver." Prov. x. 20.

What does he say of the tongue of the wise?

Ans. "The tongue of the wise is health." Prov. xii. 18.

What of a wholesome tongue?

Ans. "A wholesome tongue is a tree of life." Prov. xv. 4.

What does he say of a virtuous woman?

Ans. "In her tongue is the law of kindness." Prov. xxxi. 26.

What does he say about ruling the tongue?

Ans.

"Whoso keepeth his mouth and his tongue,
Keepeth his soul from trouble." Prov. xxi. 23.

What does the apostle Peter say about this?

Ans. "For he that will love life and see good days, let him refrain his tongue from evil, and his lips from speaking guile." 1 Peter iii. 10.

What use are we commanded to make of the tongue?

Ans. "Open thy mouth, and plead the cause of the poor and needy." Prov. xxxi. 9.

FOURTH SUNDAY IN NOVEMBER.

THE HUMAN BODY — (continued.)

Have we mentioned all the members of the human body?

Ans. No. There are many more.

Why can we not speak of them all?

Ans. Because to mention and describe them would fill a book.

Of what most important part of the whole system have we still to speak?

Ans. Of the brain.

Why is this so important?

Ans. Because it is the seat of sensation and perception; also of the intellect and of the will.

Is it peculiarly cared for?

Ans. It is, by being protected by two thick bones forming an arch over it.

By what are the different members of the body bound together and protected?

Ans. By a covering called the skin.

Of what is this composed?

Ans. Of three separate layers.

What are the nature and use of each of these layers?

Ans. The outer one is very thin, and its chief use is to protect the skin underneath and keep it moist; the second is the seat of color, and makes people dark or fair; and the third, which is the

true skin, is full of nerves and blood-vessels, and feels every touch.

Of what is the skin full?

Ans. Of little holes called pores, through which impurities pass in the perspiration.

What duty have we with regard to the skin?

Ans. To keep the pores open by keeping it clean.

Are all these parts of the body necessary to each other?

Ans. St. Paul says, "The eye cannot say unto the hand, I have no need of thee; nor, again, the head to the feet, I have no need of you; for they are many members, yet but one body." 1 Cor. xii. 21.

Why is the human body of such value and importance?

Ans. Because it is the dwelling of the Spirit.

What other purpose does it serve the Spirit?

Ans. It is a machine by which it carries out its purposes.

What has a devout poet said of it?

Ans.

> "Strange, that a harp of thousand strings
> Should keep in tune so long!"

What does Paul say of it?

Ans. "Know ye not that ye are the temple of God, and that the Spirit of God dwelleth in you? If any man defile the temple of God, him shall God destroy; for the temple of God is holy, which temple ye are." 1 Cor. iii. 16, 17.

What further does Paul say in the same letter?

Ans. What! know ye not that your body is the temple of the Holy Ghost which is in you, which ye have of God, and ye are not your own? For ye are bought with a price: therefore glorify God in your body, and in your spirit, which are God's." 1 Cor. vi. 19, 20.

If our bodies are temples of the living God, have we not some duties in regard to them?

Ans. We have.

What are they?

Ans. To supply them with nutritious food and healthful drink, and a constant supply of pure air; to abstain from whatever may impair their usefulness, and to keep them clean and pure.

To whom do we owe these duties?

Ans. To ourselves, to our fellow-men, and to God.

What becomes of these bodies?

Ans. The life goes out of them, and they are laid away.

What further becomes of them?

Ans. They crumble to dust, and live again in grass, and flowers, and trees.

Are they forgotten?

Ans. God never forgets anything which He has made.

FIFTH SUNDAY IN NOVEMBER.

See Appendix.

FIRST SUNDAY IN DECEMBER.

LIFE.

"For what is your life?" *James* iv. 14.

What was the occasion on which this question was asked?

Ans. The apostle James was writing a general epistle "to the twelve tribes which are scattered abroad."

Is the question of less importance to us than it was to them? —

What does our Savior say of the value of life?

Ans. "Is not the life more than meat, and the body than raiment?" Matt. vi. 25.

What statement of life is given in Gen. ii. 7?

Ans. "And the Lord God formed man of the dust of the earth, and breathed into his nostrils the breath of life, and man became a living soul."

What does the breath of life imply?

Ans. Existence and power of motion, and capacity for enjoyment or suffering, through the organs of the body.

What else shares this life in common with man?

Ans. Every beast of the field, and fowl of the air, and fish of the sea; every insect and reptile, and everything which hath breath.

How does this animal life appear to us?

Ans. Full of wonder and beauty.

Is it so to all?

Ans. The wonder and the beauty are about us all, and senses have been given to all, by which to see and take them in; and whoever will, may enjoy it all.

Does the spiritual life begin when the animal life ends?

Ans. No, they begin together: when God breathed into his nostrils the breath of life, then man became a living soul.

When we speak of life here, or of human life, what do we include?

Ans. Both the animal and the spiritual life.

To which did James evidently refer?

Ans. To the life of the body.

How does he answer the question which he has asked?

Ans. "It is even a vapor, that appeareth for a little time, and then vanisheth away." James iv. 14.

In what respects is our life like a vapor?

Ans. It is unsubstantial and fleeting, and vanishing as a vapor; to-day we live, to-morrow we die, and the places which knew us shall know us no more.

What is the length of life allotted to man?

Ans. Threescore years and ten.

Does it always reach that period?—

When do a large proportion of those who enter upon life die?

Ans. In infancy.

Of what is this the result?

Ans. Of the violation of God's laws of health by the child or its parents.

Are God's natural laws always binding upon us? —

For what purpose were they made?

Ans. For man's good; and he cannot violate them without suffering the penalty.

Are threescore years and ten the limit of man's life?

Ans. No. Many live to fourscore, or even to a hundred years, and occasionally one exceeds that age.

Is such a life like a vapor?

Ans. Yes, in comparison with eternal life.

What did Job say of our life?

Ans. "My days are swifter than a weaver's shuttle." Job vii. 6.

To what else did he liken the life of man?

Ans.

"He cometh forth as a flower, and is cut down;
He fleeth also as a shadow, and continueth not."
Job xiv. 2.

What are the natural divisions of human life?

Ans. They correspond to the seasons of the year: spring, summer, autumn, winter; infancy, childhood, manhood, old age.

What can you say of them?

Ans. Each has its own pleasures, trials, and duties; and all exist together and aid each other.

Can you see any wisdom in this division and arrangement? —

Suppose there were only infants in the world at one time, what would result? —

Suppose childhood was the only stage? —

What would become of manhood without the claims of infancy, childhood, and old age upon it? —

How would it be with old age if it survived alone in the world? —

Do the results of animal life end with death?

Ans. No. The body and soul are so closely bound together as to affect each other so long as either exists.

Give an instance.

Ans. If the organs of digestion are out of order melancholy and distrust are often the result, and from these may spring actual crime.

Give another instance.

Ans. If the mind is filled with anxious thoughts and cares or griefs, the body sometimes becomes enfeebled or diseased in consequence.

How may these effects extend after the death of the body?

Ans. What the soul aims at here it may attain hereafter; and as its aims here are affected by that which touches the animal life, so its condition in the new life may also be.

SECOND SUNDAY IN DECEMBER.

LIFE — (continued.)

"I am come that they might have life, and that they might have it more abundantly." *John* x. 10.

Of which life does Jesus here speak?

Ans. Of the spiritual life.

Of the life here, or of the future life?

Ans. Of both, for they are parts of one and the same.

How is the spiritual life superior to the animal?

Ans. First in its duration.

In what other respect is it superior?

Ans. In its aims.

What is the aim of the animal man?

Ans. Enjoyment.

What of man the spirit?

Ans. Perfection.

In what does this consist?

Ans. In truthfulness, earnestness, faithfulness; in loving our heavenly Father with our whole hearts, and His children as ourselves.

In what does a man's life not consist?

Ans. Neither in length of days, nor "in the abundance of things which he possesseth." Luke xii. 15.

In what does it consist?

Ans. In deeds, and thoughts, and feelings; "he

lives longest who thinks most, feels the noblest, acts the best."

By what should the value of life be estimated?

Ans. By the work which it has done for the world.

Whose lives have been the most valuable?

Ans. The inventors, discoverers, philanthropists, teachers, writers, and good rulers.

Are these the only ones whose lives are valuable?

Ans. No. Whoever does well the work which God has given to him to do, is a real benefactor of the race, however humble his work may be.

What is the all-important question with us in regard to our life?

Ans. "Not how long we live, but how."

What is a long life?

Ans. "That life is long which answers life's great end."

And what is life?

Ans. St. Paul says, "to be spiritually minded is life." Rom. viii. 6.

How do the possessions of this life compare with God's promises for our future life?

Ans. Here we have beauty and fragrance, and harmony and variety; and for the life to come, the assurance that "eye hath not seen, nor ear heard, neither hath entered into the heart of man to conceive, the things which God hath prepared for those who love Him."

What relation does the life here bear to that which is to come?

Ans. This is a preparation for that. We live here that we may learn how to live there.

For what will gentleness, meekness, patience, brotherly kindness, and love, prepare us? —

For what will hate, envy, jealousy, selfishness, and covetousness, prepare us? —

Have we the choice given us between these?

THIRD SUNDAY IN DECEMBER.

SLEEP.

"He giveth His beloved sleep." *Ps.* cxxvii. 2.

Why does God give us sleep?

Ans. That we may have entire rest.

Is it our bodies or our minds which need rest?

Ans. Both.

Could they continue to exist long without it?

Ans. The body would die, and the mind would become enfeebled.

Does the whole body require sleep?

Ans. No.

What parts do require it?

Ans. The brain, and those parts which the brain controls.

How does sleep act upon them?

Ans. It is as if the bands were loosened or the nerves unstrung.

Do the senses sleep?

Ans. They do.

Do they all fall asleep together?

Ans. No. The sense of sight sleeps first, then taste, next smell, and lastly touch.

What parts of the body do not require sleep?

Ans. The heart, the lungs, and the digestive organs.

How do we best learn what a blessing sleep is?

Ans. By being deprived of it when we need it.

Is any portion of time particularly adapted for sleep?

Ans. Yes, the night and darkness.

How do the nights seem when sleep will not come to us?

Ans. Long and wearisome.

Is one part of night better than another for sleep?

Ans. Yes. Sleep which we get early in the night does us the most good.

To whom is sleep a peculiar blessing?

Ans. To the sick and the afflicted, and to those oppressed by care.

By what name has the poet called it?

Ans. "Tired nature's sweet restorer."

What is said of the sleep of the laboring man?

Ans. "The sleep of the laboring man is sweet, whether he eat little or much; but the abundance of the rich will not suffer him to sleep." Eccles. v. 12.

Is sleep a gift to man alone?

Ans. No. It is bestowed on every living thing that hath breath.

Do all animals sleep in the night?

Ans. Many of the wild beasts of the forests sleep by day, and are abroad at night.

Do birds and insects sleep by day or night?

Ans. Some sleep by day and some by night.

Mention some of each that are awake in the night.—

Who is it who never sleeps?

Ans. "Behold, He that keepeth Israel shall neither slumber nor sleep." Ps. cxxi. 4.

Can we take care of ourselves while we are asleep? —

May we ask God to watch over and protect us during sleep? —

May we thank Him for His care when we awake? —

Has sleep any other uses than those we have mentioned?

Ans. The necessity for sleep teaches us our own frailty, and our dependence upon God. "We receive each morning strength for the day, and when the time has gone, we fall back into God's bosom to be recruited."

In what other way does it act upon us?

Ans. "It lessens the power of habit by checking us constantly in our career, and at the same time it turns our thoughts into a new channel, and gives us a fresh start for the coming day."

What effect does it have upon anger and other evil passions?

Ans. It often weakens and sometimes destroys them.

What has it been called in allusion to this?

Ans. "An unconscious Sabbath, or a truce of God," where no anger, or hatred, or revenge, or jealousy, can exist.

Of what is sleep the source?

Ans.

"Come blessed barrier between day and day,
Dear mother of fresh thoughts and joyous health."

How is it a proof of God's universal love?

Ans. By visiting the evil and the good, the thankful and the unthankful, those who love Him and those who love Him not.

FOURTH SUNDAY IN DECEMBER.

DEATH.

"What man is he that liveth and shall not see death?"
Ps. lxxxix. 48.

What do these words proclaim?

Ans. That death is a universal law of life.

As God is always good and just in all His dealings with us, may we not be sure that the law of death is a wise and benevolent law? —

What is death?

Ans. It is the extinction of bodily life.

What more is it?

Ans. It is the entrance through which we pass to a higher stage of life; all our paths in life, however far apart they lie, meet here, and from this gate they will, perhaps, diverge again.

Is the law of death a natural law?

Ans. It is, and is as necessary to our progress as birth or growth.

Do our bodies die?

Ans. No. No particle of matter in God's universe is ever destroyed, it is only changed from animal to vegetable, from vegetable to animal life.

Do our spirits die?

Ans. No, they pass "through death to life." Death is a new birth to them.

What is the feeling with which death is usually regarded?

Ans. With fear and dread.

What is death called?

Ans. "The king of terrors."

What is used as an emblem of death?

Ans. A skeleton bearing a scythe.

What is the reason of this feeling?

Ans. Because we know so little about it, and because our faith is so narrow and so weak with regard to the life beyond death.

How may we learn somewhat of death?

Ans. By the many types and emblems of it which God has given us.

What is the most common of these?

Ans. Sleep.

How does sleep resemble death?

Ans. In being a state of unconsciousness.

Can any one tell the precise moment when he will fall asleep? —

Is it not so with death? —

Why do we sleep?

Ans. That we may wake refreshed.

Why do we die?

Ans. That we may live a higher and a purer life.

As we fall asleep with confidence of waking, why should we not have the same assurance with regard to our long sleep? —

Does the law of death extend beyond the human family?

Ans. Yes, to all animal and all vegetable life also.

What is the general law with regard to the death of trees and plants?

Ans. That they should die when they have accomplished the purpose of their being here, and are fully ripe.

What is the natural law of death?

Ans. That it should close a life which has lasted till old age and the decay of the faculties.

Why do so great a proportion die before reaching that state?

Ans. It is the result of disobedience to some of God's natural laws.

Can any of God's laws be disobeyed and no penalty be paid? —

What is the sting of death?

Ans. "The sting of death is sin." 1 Cor. xv. 56.

What causes the dread of death?

Ans. Sin.

Why is this?

Ans. Because a life of sin, and sinful tastes and desires, cannot prepare one for the enjoyment of a higher life with God.

What does St. Paul say of death in his letter to the Romans, viii. 6?

Ans. "For to be carnally minded is death."

What does he mean by being carnally minded?

Ans. Exalting the body above the spirit, and desiring sinful gratifications.

To what death does he refer?

Ans. To spiritual death.

Which of God's works teach us most plainly about death?

Ans. When the worm rolls itself up in its chrysalis, it seems as dead as the body from which the

soul has fled; but it comes forth alive in a newer and more glorious form, and we know, because we see, that two stages of entirely different existence are possible for the same being.

Can you give another instance?

Ans. The kernel of corn, or of wheat, or rye is laid away in the earth, and seems to die; but only the covering dies, and the germ of life that was in it then first really begins to live, and a beautiful plant springs up, with entirely different capacities from those which it had before.

How did the Greeks represent death?

Ans. As a beautiful youth.

How does Homer speak of death?

Ans. "Sleep and death are twins."

What does another Greek poet call them?

Ans. "Sons of night."

From whom does death separate us?

Ans. From the friends we love, and by whom we are loved.

To whom will it unite us?

Ans. To our loved ones who have gone before, and to Jesus our Savior and friend.

What does Jesus promise to those who love him?

Ans. "I go to prepare a place for you, . . . that where I am there ye may be also." John xiv. 2, 3.

From what will death release us?

Ans. From pain, and sickness, and temptation, and care.

To what will it remove us?

Ans. To a home "where there shall be no more

death, neither sorrow nor crying, neither shall there be any more pain." Rev. xxi. 4.

To whom is this promised?

Ans. "He that overcometh shall inherit all things." Rev. xxi. 7.

What pledge have we that we shall live again?

Ans. The resurrection of Jesus, and his saying, "I am the resurrection and the life; he that believeth in me, though he were dead, yet shall he live." John xi. 25.

FIFTH SUNDAY IN DECEMBER.

See Appendix.

APPENDIX.

LESSONS FOR THE FIFTH SUNDAYS.

For the Fifth Sunday of

JANUARY, FEBRUARY, OR DECEMBER.

SNOW.

"Hast thou entered into the treasures of the snow?
Or hast thou seen the treasures of the hail?"
Job xxxviii. 22.

What do these words imply?

Ans. That there are treasures in the snow and hail.

What is the purpose of this lesson?

Ans. To try to find out what those treasures are.

To what does the psalmist liken the snow?

Ans. "He giveth snow like wool." Ps. cxlvii. 16.

What do we learn from David's writings?

Ans. That he loved to study the works of God, and that his heart was full of praises to Him.

In what country did David live?

Ans. In Judea.

Have they still snow in Judea?

Ans. Yes, occasionally; but it does not lie long upon the ground.

Is there any respect in which snow is like wool?

Ans. In whiteness, in looseness of texture, and in warmth.

What causes the whiteness of snow?

Ans. It is formed of an infinite number of mi-

nute prisms and crystals, which reflect all the colors of the rays of light; these colors uniting before they reach the eye, make the snow appear white.

What occasions the looseness of texture in snow?

Ans. The little air-chambers with which it is filled.

To what has it been likened.

Ans. To feathery down.

How can it be warm when it feels so cold to us?

Ans. It does not carry off heat readily, and in that way keeps the warmth that there is in bodies from escaping.

What does it do for the earth?

Ans. In the cold season it falls, and covers the earth like a garment.

What is the advantage of that?

Ans. The roots of the grasses and winter grains, and many other plants, are kept alive in that way.

What does it sometimes do in the frozen regions?

Ans. It covers over the delicate little flowers, and keeps them fresh and bright till the warm weather comes again.

Can animals live under the snow?

Ans. A whole Swiss family were once buried under an avalanche of snow, and were found there alive five months afterwards.

Did they have any food?

Ans. Only a few chestnuts and the milk of a goat which was buried with them.

Did they suffer very much from the cold?

Ans. Not severely.

What more do we learn about this?

Ans. That in some cases it actually nourishes animal life, containing in itself myriads of microscopic creatures.

How does God fashion the snow-flakes?

Ans. When the air is very cold, it crystallizes the vapor into flakes, which then fall to the earth.

How would the vapor fall in a warmer temperature?

Ans. As rain.

Have the snow-flakes any particular form?

Ans. They have a great variety of forms, but all obey a certain law.

What is that law?

Ans. Snow always crystallizes in three, or some multiple of three; that is, every snow-flake has not only its sides, but its angles, of some number that may be divided by three.

What other law do they obey?

Ans. The snow-flakes which form at one time are similar in shape; if the temperature varies the shape changes.

How many forms of flakes have been noticed?

Ans. More than a hundred.

Where are the most beautiful forms seen?

Ans. In the arctic regions.

Why do we find so many of the snow-flakes imperfect in their shape?

Ans. Because they jostle against each other in coming down, and are broken in pieces.

Has the snow any other uses besides keeping the plants alive?

Ans. In different regions it has different uses.

Hot countries are cooled by the air which blows over it; rivers and streams are fed by the little rills which trickle down from the melting snows on the mountain sides; and when it melts and soaks into the earth, it nourishes and enriches the roots of plants and trees, and gives them new vigor and new life.

Mention some of its uses to the inhabitants of the frozen regions.

Ans. It makes communication easy between distant places by opening a smooth highway for their sledges, and it furnishes materials for their habitations, which it makes both warm and light.

Do the people of those countries enjoy the snow?

Ans. Yes. They rejoice in its coming.

What has a northern traveller called the snow?

Ans. "Earth's sleeping dress."

By what other name has it been called?

Ans. "Earth's winter robe," of purest white.

What else does snow do for the earth?

Ans. It hides the barrenness and poverty of winter, and covers the earth with beauty.

What Christian grace does it thus resemble?

Ans. "Charity [which] shall cover a multitude of sins." 1 Pet. iv. 8.

Of what other graces is it a type?

Ans. Of purity and cheerfulness.

What effect, then, should its coming have upon our souls? —

What can you say of the silence of the snow? —

What of its durability? —

Is snow ever any other color than white?

Ans. Yes. Beyond the region of perpetual snow it assumes various colors — red, orange, and salmon.

To what is this owing?

Ans. To minute animal and vegetable life; sometimes one, sometimes the other.

What does the psalmist say of the snow?

Ans. "Praise the Lord, snow and vapors; stormy wind fulfilling His word." Ps. cxlviii. 7, 8.

If the snow, and vapors, and stormy wind fulfil the word of the Lord, what is the lesson which they teach us?

For the Fifth Sunday of

MARCH, APRIL, OR MAY.

THE HEAVENS.

What can we see which more than anything else declares to us the glory of God?

Ans. "The heavens declare the glory of God, and the firmament showeth His handiwork." Ps. xix. 1.

What was the Hebrew belief respecting heaven?

Ans. That there were three heavens: the first, near the earth, filled with air; the second, beyond that, in which the clouds were placed; and the third, still beyond these, where God dwelt.

What does our English word heaven mean?

Ans. High, or elevated.

When we speak of the heavens, then, what idea does it convey to us?

Ans. The high place, the region above us.

When we look at the heavens what do we see?

Ans. A mighty dome.

When did people begin to study the heavens and what they contain?

Ans. Very early in the world's history.

Why is it probable that God's works occupied the thoughts of the people generally more than they do now?

Ans. Because there were not so many other

things to think of; there had been less discoveries and inventions, and the cares of the world had not crept in then as they have since.

What is the glory of God which the heavens declared to the psalmist, and still declare to us?

Ans. The infinitude of His existence, the perfection of His being, the wonder of His working.

How do the heavens declare God's glory to us?

Ans. By their extent, by the numberless orbs which they contain, by the laws which govern those heavenly bodies, and by our own dependence upon them for our supply of light and heat.

Mention some of those bodies. —

When are the glories of the heavens revealed to us?

Ans. By night and day. We see the glorious sun by day, but the others can only be seen when his light is withdrawn.

Can we ever see all of the heavenly bodies?

Ans. No. Only a very small part of them.

What reason have we for believing that there are more than we can see?

Ans. Because some persons see a great many more than others; and because the clearer the air is the more we can see; and because, with a powerful glass, more than as many again can be seen as with the naked eye; and because new ones are constantly being noted, every new help revealing new objects, and there seems no limit to them.

If these all declare the glory of God, what is it which showeth His handiwork?

Ans. The beautiful and ever-varying clouds.

What other object of interest is occasionally presented to us in the firmament or heavens?

Ans. The rainbow.

When did God create the sun, the stars, the planets, and the moons? —

When did He create the clouds and the rainbow? —

Why are these last called His handiwork?

Ans. Because they are made from day to day, and from hour to hour, as if by the labor of the hand; and every man may see them.

How is this done?

Ans. By the action of God's unchangeable laws, fixed "in the beginning."

How does the psalmist conclude his utterance?

Ans.

"Day unto day uttereth speech,
And night unto night showeth knowledge." Ps. xix. 2.

How is this true? —

Are we not surrounded on all sides by teachers, of whom we may learn lessons of God's wisdom, power, and love? —

Is not that probably one of the purposes of our being placed here? —

For the Fifth Sunday of

JUNE, JULY, OR AUGUST.

THE MAGNET.

What is an emblem?

Ans. A sign or token.

How will you explain the meaning?

Ans. It is a natural object, which suggests a similar spiritual thought to the mind.

Of what is the anchor an emblem?

Ans. Of hope.

Why? —

Of what is a pair of scales an emblem?

Ans. Of justice.

Why? —

A crown?

Ans. Of royalty.

Why? —

A snow-drop?

Ans. Of purity.

Why? —

What is spoken of in Scripture as an emblem of purity?

Ans. A white robe.

Are emblems often introduced in Scripture teachings?

Ans. They are.

What does our Savior say in John xii. 32?

Ans. "And I, if I be lifted up, will draw all men unto me."

Can you think of any emblem of this power in Jesus to draw all men unto him?

Ans. Yes. The magnet.

What is a magnet?

Ans. A kind of iron ore, which has the property of drawing other ore to it.

By what other name is it known?

Ans. The loadstone.

Do magnets attract any metal but iron?

Ans. Yes, nearly all metals, but in different degrees.

If a magnet is held over mineral substances how will it affect them?

Ans. It lifts them up to it.

What curious fact about magnets can you state?

Ans. That they have all two points in opposite directions, to which metals are most strongly attracted.

What are these points called?

Ans. The poles of the magnet.

What are the names given to these two poles?

Ans. The positive and negative poles.

If two magnets are placed near each other, which poles will have a mutual attraction?

Ans. The positive pole of one and the negative pole of the other.

In what direction does the magnet point?

Ans. Directly north.

Does this property of the magnet make it useful to man?

Ans. It does.

Where?

Ans. At sea, or in forests, or in trackless deserts.

What is the instrument called which is used to point out the direction?

Ans. A compass; and it is composed of a magnetic needle suspended on a pivot, so that it will turn easily, and enclosed in a box to protect it from wind and rain, with a glass top through which the needle can be seen.

Is there any way in which a compass reminds us of our Lord?

Ans. Yes. He always shows us the Father, as a compass always points to the north.

If we follow his teachings, can we go astray? —

To what did Jesus refer when he said, "I, if I be lifted up, will draw all men unto me?"

Ans. To his being lifted up upon the cross.

How does his death upon the cross draw men to him? —

When the magnet draws other metals to itself, does it impart any of its properties to them?

Ans. It does.

What do they become?

Ans. Magnets also.

When we draw towards Jesus, do we become like him? —

What effect does this have upon us?

Ans. We in turn attract others to us.

Is there not then a spiritual magnet? —

What is its name?

Ans. Love.

Where is the source of this spiritual magnetism?

Ans. In God, because "God is love."

Does He impart this quality to all of His children?

Ans. Yes, but in different degrees.

What is its result in them?

Ans. To attract and influence each other.

Does the amount of the attraction which we receive and impart depend upon ourselves? —

Does a magnet lose any of its power by imparting power to other metals?

Ans. It does not.

Is the same true with the spiritual magnet? —

If we strengthen our love by keeping constantly near the Source of all love, what will be the result?

Ans. We shall also draw men to us, and through us to God.

For the Fifth Sunday of

SEPTEMBER, OCTOBER, OR NOVEMBER.

MOUNTAINS.

"Thy goodness, O Lord, reacheth to the heavens;

. . . .

Thy righteousness is like the high mountains."

Ps. xxxvi. 5, 6.

Can we study the infinite One as we would a book, or a picture, or a statue? —

Why can we not?

Ans. Because "no man hath seen God at any time." John i. 18. "Whom no man hath seen or *can* see." 1 Tim. vi. 16.

How, then, are we to learn about Him?

Ans. He has revealed Himself to us in His word and in His works.

In what spirit should we always study His works? —

What advantage has the revelation of God in His works over the written revelation?

Ans. In being open to all His children, and in coming direct from Himself, without the intervention of translator or intepreter.

"*God's righteousness is like the high mountains.*" *What is the meaning of righteousness?*

Ans. Uprightness, integrity, rectitude, faithfulness.

What are some of the characteristics of mountains?

Ans. Power of endurance, unchangeableness, majesty.

What terms are applied to them in Scripture?

Ans. "The ancient mountains," "the everlasting hills." Deut. xxxiii. 15. Gen. xlix. 26.

Of what was it necessary that the mountains should be formed to insure their endurance?

Ans. Of a different and harder substance than that used elsewhere.

Do we find, accordingly, that such a substance is used?

Ans. We do.

What is that substance?

Ans. Rock.

Are all mountains formed of the same kind of rock?

Ans. They are not.

What have the mountains been called?

Ans. "The bones of the earth."

How are they like bones to the earth? —

Are the mountains, or is any other created thing, a perfect type of the Creator? —

Why can they not be?

Ans. Because their unchangeableness is only apparent.

Why does it seem real to us?

Ans. Because the changes in them are so gradual.

What forces work upon the mountains to crumble them to nought?

Ans. Thunder and lightning, frost and rain, the torrent and the waterfall, and, just as surely

as all the rest, the little lichens, whose roots pierce their crevices, and help to crumble them to pieces.

What purpose is effected by this rending and crumbling of the mountains?

Ans. It renovates and changes the soils of the earth, which would otherwise become exhausted.

How is this done?

Ans. Fragments are broken off and cast down; these are splintered by frosts, and ground by torrents into sand and clay, which are distributed, by every little streamlet, over the whole surface of the hungry earth.

To what have the mountains been compared?

Ans. To "heaps of fresh and fertile earth, laid up by a prudent gardener beside his garden beds, whence, at intervals, he casts on them some new and virgin ground."

What other use is effected by the want of solidity in the mountain masses?

Ans. It makes them available for the use of man in architecture and in sculpture.

What do mountains do for the waters of the earth?

Ans. They give them motion, and so power and purity.

What do mountains do for the air?

Ans. They change its currents, and in many ways purify it and vary its temperature.

Mention some of the more material services which the mountains render?

Ans. They furnish shelter for wild beasts, pasturage for cattle, haunts and homes for birds, forests

for shipping and for fuel, stone for building, metals for the arts, and minerals for the healing of diseases.

What, then, are they as a whole?

Ans. "Sources of life and happiness;" "a perpetual mercy of God to man."

What other characteristics of mountains are there besides those already mentioned?

Ans. Their variety of form and beauty of coloring.

What can you say of this last?

Ans. Usually it is all the variety of shades of green, given to us by their wooded heights; often this is crowned with purest white; but in some parts of Siberia, and in some other countries, the mountains present the most brilliant colors from the minerals which enter into their structure, and sparkle in the sunshine like precious stones.

Have not the mountains other and nobler uses than those which we have named?

Ans. They have: to elevate the mind and heart of man, to fill his thoughts with the beauty of God's working and the richness of His giving, and to teach lessons of humility.

What was the feeling which they inspired long ago?

Ans. "I will lift up mine eyes unto the hills, whence cometh my help." Ps. cxxi. 1.

What interesting associations have we with the mountains and the hills?

Ans. Associations with events recorded in Scrip-

ture, which are said to have taken place on or among them.

How are they connected with the history of Moses?

Ans. He was called of God from Mount Horeb (Ex. iii. 1, 4); God gave the commandments to him from Mount Sinai (Ex. xix. and xx.); and he died on Mount Nebo (Deut. xxxiv.).

What other priest of the Lord died on a mountain?

Ans. Aaron, on Mount Hor. Num. xx. 27, 28.

How are they associated with our Savior's life?

Ans. His first sermon was preached on a mountain; he went often upon the mountains to pray; he was transfigured upon a mountain; he went out into the Mount of Olives, "as was his wont," with his disciples, the evening before his crucifixion, and talked with them there; and from the same mountain he ascended into heaven. Acts i. 9, 12.

What do these associations give to all mountains?

Ans. A tender and sacred interest.

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